

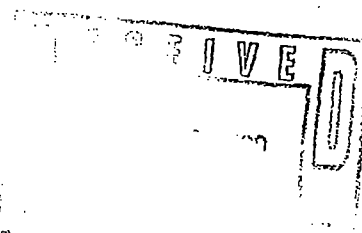


225253

*Report of U.S. EPA Region V
Removal Action
Area 2 Site Q
Southern Portion*

**October 1999 Through April 2000
Cahokia, Illinois**

Prepared For
**Eagle Marine Industries, Inc.
Sauget, Illinois**



Prepared by

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**Project 990028
October 2000**

TABLE OF CONTENTS

	Page
1.0 SITE HISTORY AND PURPOSE/ SCOPE OF THE U.S. EPA ACTION.....	1
2.0 KEY PROJECT PERSONNEL.....	2
3.0 SITE AREAS OF CONCERN/ REMOVAL	4
4.0 WEEKLY CHRONOLOGY OF EVENTS	4
4.1 OCTOBER 1999.....	4
4.2 NOVEMBER 1999	5
4.3 DECEMBER 1999.....	7
4.4 JANUARY 2000.....	9
4.5 FEBRUARY 2000	10
4.6 MARCH 2000	11
4.7 APRIL 2000	14
5.0 LABORATORY RESULTS AND CONTAMINANTS OF CONCERN	15
6.0 WASTE TREATMENT/DISPOSAL METHODS & OFF-SITE TSD FACILITIES.....	19
7.0 SUSPECT NON-PARTICIPATING POTENTIALLY RESPONSIBLE PARTIES (PRPS).....	21

List of Tables

Table 1	Summary of Key Site Personnel
Table 2	Inventory of Removed Drums
Table 3	Status of Waste Soil Stockpiles, March 22, 2000
Table 4	Waste Characterization Results
Table 5	Soil Quality Results
Table 6	Groundwater Sample Analytical Results
Table 7	Summary of Identified Hazardous Parameters and Contaminants of Concern (COCs)
Table 8	Waste Treatment and Disposal Procedures
Table 9	Characteristics, Usage and Potential Sources of COCs
Table 10	Non-Participating PRPs Referenced on Waste Material Discovered During Removal Action

List of Figures

Figure 1	Sauget Area 2 – Site Q Location
Figure 2	Removal Areas and Sample Points – Southern Portion of Site Q

Photographs

October 31, 2000

1.0 Site History and Purpose/ Scope of The U.S. EPA Action

The southern portion of Site Q (hereafter known as the subject site) consists of about 63 acres bounded on the north by the Alton and Southern Railway; on the south by Cargill Road; on the east by the U.S. Army Corp of Engineer's flood dike and on the west by the right-of-way of Explorer Petroleum's buried pipeline. Figure 1 depicts the location of the subject site with respect to the remaining portion of Site Q and Area 2.

Prior to 1950, the area was farmland. From 1950 through at least 1955, sand was mined from the area subsequently forming the two impoundments (borrow pits) shown on Figure 1. Site Q was used as a waste disposal area for industrial and municipal wastes between the years 1962 and 1973 and was operated by Sauget & Company. Eagle Marine Industries, Inc. (Eagle Marine), then known as Notre Dame Fleeting and Towing Service, Inc., purchased the subject site in 1973 for access to the Mississippi River for its barge operations.

In November 1994, the Illinois Environmental Protection Agency (IEPA) performed a site reconnaissance and limited sampling program in the southern half of Site Q. This assessment was performed as part of a data gathering effort on areas in and around Site Q that were impacted by flooding in the summer of 1993. IEPA allegedly observed approximately 150 to 200 drums at or partially buried beneath the ground surface. Laboratory analysis of eleven samples collected from waste piles in the southern half of Site Q yielded elevated concentrations of arsenic, cadmium, lead and polychlorinated biphenyls (PCBs).

A Preliminary Ecological Risk Assessment (PERA) was performed for the subject property in April 1997 by Ecology and Environment, Inc. The PERA was performed for the U.S. EPA Region V (EPA). The PERA report, dated August 31, 1997, provided the following conclusions and recommendations regarding the southern portion of Site Q:

- Direct human health risk-based levels were not exceeded
- Potential human ingestion exposure to chromium, lead, mercury and PCBs is possible from the consumption of fish where these constituents may bio-accumulate.
- The presence of cadmium, chromium, lead, mercury and PCBs may affect wildlife species as follows: decrease the species' richness in the area, acute toxicity, reduced growth and inhibited reproduction.
- Further investigation and a possible removal action were recommended.

The Emergency Response Branch of EPA submitted the following document to the Superfund Division of Region V: *Action Memorandum – Determination of Threat to Public Health, Welfare, or the Environment at the Sauget Area 2 Site (Site Q), Cahokia, St. Clair County, Illinois (Site ID #05XX)*. This memorandum documents the determination, according to EPA, of an imminent and substantial threat to public health and the environment posed by materials present in the southeastern corner of the southern third portion of Site Q. The memorandum also proposed a removal action for uncontrolled hazardous waste substances located in drums and soil, which was classified as an emergency response. The proposed removal action included the removal of approximately 7,000 to 15,000 cubic yards of soil.

October 31, 2000

On February 18, 1999, Eagle Marine and several other parties (the PRPs) received notification of their potential liability with regard to the planned removal action in the southern portion of Site Q. This notification was contained in a letter (General Notice of Potential Liability) from EPA Region V Emergency Response Branch dated January 29, 1999. This letter contained the above-described *Action Memorandum* dated December 21, 1998. The letter also requested a response from the PRPs as to their willingness to perform or finance the planned clean-up effort.

In October 4, 1999, EPA issued the following from the Emergency Response Branch: *Action Memorandum – Request for Time Critical Removal Action and “Consistency” Exemption from \$2 Million Statutory Limit at the Sauget Area 2 Site (Site Q), Cahokia, St. Clair County, Illinois (Site ID #05XX)*. This memorandum documented EPA’s plan to expend up to \$2.4 million from Superfund to conduct the previously described removal action. The Superfund Division approved the proposed removal action and budget on September 24, 1999.

Eagle Marine received notice from EPA on October 7, 1999 that EPA would mobilize on the subject site and begin removal action activities on or about October 18, 1999. EPA also requested a signed property access agreement for the removal action. Eagle Marine provided the signed property access agreement in a letter to EPA dated October 14, 1999.

2.0 Key Project Personnel

The key personnel of this removal action, their roles and contact information are summarized on Table 1.

October 31, 2000

TABLE 1 - SUMMARY OF KEY SITE PERSONNEL
October 1999 – April 2000 Removal Action
Southern Portion Of Site Q, Area 2 Cahokia, Illinois

Organization	Office Location	Name	Title	Project Role	Phone Number
U.S. EPA Region 5	Marion, IL	Kevin Turner	On-Scene Coordinator (OSC), Emergency Response Branch	Directed the overall removal and sampling efforts conducted by Environmental Quality Management, Environmental Restoration I.L.C and Ecology and Environment	(618) 997-0115 Pager (888) 954-3272
	Chicago, IL	Samuel Borries	Temporary OSC, Emergency Response Branch	Replaced Mr. Turner as OSC from 1/17/00 through 1/28/00.	(312) 353-2886
		Mike McAteer	Project Manager, Remediation	Manages the remediation of all of Area 2 as well as Hazard Ranking and NPL scoring. Mr. McAteer visited the site periodically throughout the removal action.	(312) 886-4663
U.S. Coast Guard, Atlantic Strike Team	Fort Dix, NJ	Matt Schalich	Temporary OSC	Replaced Mr. Turner as OSC from 12/2/99 through 12/8/99.	(609) 724-0008
Illinois EPA NPL Unit, Bureau of Land	Springfield, IL	Candy Morin	Remedial Project Manager (RPM)	Provides support to Mike McAteer and U.S. EPA Region 5 during the course of remediation for Site Q including NPL scoring.	(217) 785-9397
Environmental Quality Management Inc. (EQM)	Cincinnati, OH	Randy Staling	Project Administration Coordinator	EQM is the direct clean-up contractor for U.S. EPA. Mr. Staling performed project management, administrative and accounting functions for the removal effort.	(513) 825-7500, Ext. 290
Environmental Restoration, L.L.C. (ER)	St. Louis, MO	Jim Davis	Removal Crew Supervisor	Managed all on-site excavation, disposal and grading operations and personnel on site.	(636) 227-7477
Ecology & Environment (E&E)	Marion, IL	T.E Fitzgerald	Manager of Field Monitoring	Monitored contaminant vapor levels; collected soil and waste profile samples for disposal purposes; collected soil, sediment and groundwater samples for removal and future remediation purpose; conducted hand-held magnetometer surveys to target exploratory excavations.	No Longer with E&E
	Marion, IL	Paul Atkociunas	Field Monitoring Technician	Conducted the same activities as Mr. Fitzgerald and replaced him in the last several weeks of the project.	(618) 998-8010

October 31, 2000

3.0 Site Areas of Concern/ Removal

Figure 2 illustrates the locations of nine areas (Area A and Areas 1 through Area 8) where exploratory excavation and removal activities occurred. According to EPA, these areas were identified for exploration of past hazardous waste disposal based on the following:

- Review of historic aerial photographs of the area presently known as Site Q
- Interviews with persons believed to be knowledgeable of past suspect disposal activities
- Previous observations of ground surface expressions indicating buried materials
- Soil and waste material laboratory analytical results generated during 1) the site reconnaissance and limited sampling program performed by IEPA in November 1994 and 2) the PERA performed in April 1997
- Near-surface anomalies of buried iron-bearing metal objects identified using a hand-held magnetometer after exploration commenced
- On-going observations made in exploratory trenches as the removal action proceeded

In general, the exploration/ removal effort focused on ground surfaces that had a substantial slope toward the two main ponds and smaller ponds further to the northeast.

4.0 Weekly Chronology of Events

The following sections describe, in a weekly summary format, the field activities and associated observations that took on the subject site. Equipment used on site included two track-type excavators, a large track-type front-end loader, an all-terrain dump truck, a BobCat™ front loader and a large rubber-tire high lift front-end loader. Selected photographs that correspond to the weekly activity summaries are provided in the appendix to this report.

4.1 October 1999

Week Ending October 29, 1999 (Cumulative Drum Count @ 32)

Exploratory excavations began on October 26, 1999 on the southwest end of Area A. Seventeen test pits were excavated in a northeast direction along the embankment facing the West Pond over a two and a half day period. Debris consisting primarily of plastic sheeting, rubber strips, metal, glass bottles and concrete slabs was observed in the exploratory pits. In many locations, the debris (mostly metal and glass) was charred and fused together in layers. On-site burning during waste placement was apparent in order to reduce fill volume. The depth of debris fill ranged from three to eight feet below ground surface (bgs), and the debris appeared to have been placed in lifts upon terraces in the embankment of Area A. Two 55-gallon drums were unearthed in Area A; one contained a hard purple-black vitrified solid and the other contained a hardened blue-gray elastic resin.

October 31, 2000

On October 28, 1999, exploratory excavation began on the southeast edge of Area #1. Excavation proceeded into an elongated mound (approx. 150 ft. x 50 ft. x 3 ft.) oriented northwest to southeast, which extended from the west embankment of the East Pond and into the East Pond. Approximately 30 drums (ranging from intact with wastes to empty, crushed and highly corroded) were removed and temporarily stockpiled. The wastes were liquid to semi-solids with volatile organic compound (VOC) odors and suspected to be paint waste. Black, pink, gray, red and yellow stained/layered soil suspected to be impacted by paint wastes was removed and temporarily stockpiled next to Area #1. This impacted soil was one to two feet thick and native soil (slightly silty fine sand) was encountered about three feet bgs.

Sample Collection: Two soil samples were collected from Area #1 as follows: one sample (Drum-01) was from immediately around a spilled liquid waste in the excavation and the other (Drum-02) was from a heavily stained area on the temporary soil stockpile.

4.2 November 1999

Week Ending November 5, 1999 (Cumulative Drum Count @ 79)

Drum staging and impacted soil staging areas were created in Area 5 and the southwest portion of Area 6. Exploratory excavation and drum and soil removal continued in Area #1 proceeding toward the northwest. A hand-held organic vapor analyzer (OVA) was used to guide the extent of soil removal efforts and monitor for VOC emissions from unearthed drums. Recovered drums were transported to the staging area in Area 6 and numbered for inventory. Impacted soil surrounding the drums was transported to two soil stockpiles in the staging location in Area 5. Black oily residue and tar-like residue was excavated at some locations. Twelve large amber-colored glass jars containing liquids and crystalline solids of various colors were found in a drum. The jar lids were labeled "Mallinckrodt" and appeared to be laboratory-testing chemicals. Stained soil appears to terminate at a maximum depth of four feet bgs and the ground water surface (observed with an oily sheen) is apparent at a depth of 5.5 feet bgs in the southern part of Area 1. Loose, moist, native gray sand was excavated to the depth of ground water. This sand exhibited a strong sweet VOC odor and was transported to the stockpiles in Area 5.

A hand-held magnetometer (detects iron-containing metal objects) was used to scan areas north and south of Area 1 in order to locate potential buried metal drums. Magnetic anomalies were marked on the ground and represented the initial exploratory excavations in Areas 2 and 3.

Sample Collection: A composite soil sample (Pile-01) was collected from the first soil stockpile generated from Area 1. This sample was analyzed for metals, VOCs, SVOCs and PCBs to screen for specific contaminants and their concentration ranges in Area 1 soil.

Week Ending November 12, 1999 (Cumulative Drum Count @ approx. 550)

Two track-type excavators were digging exploratory pits and removing visually-impacted soil and drums from Areas 1, 2 and 3. At least 485 55-gallon drums were removed from Area 1. About 30 percent of these drums had silver non-latex paint coating their surface. More than 90 percent of the drums from Area 1 were either empty, contained only soil, crushed or otherwise not intact. Grey, yellow and red brick-size chunks (suspected to be metal smelting furnace

October 31, 2000

of Area 3 appeared to be resins, paint wastes, adhesives and hardened chemical cements and sealants. No site work occurred on November 25 and 26 due to Thanksgiving holiday.

4.3 December 1999

Week Ending December 3, 1999 (Cumulative Drum Count @ approx. 860)

ER spent most of the week backfilling Areas 1, 2 and 3 with previously removed soil and municipal waste. Rough soil grading over these area was also conducted. Track hoes sifted through stockpiled municipal waste from Area 3 to sort out drums while simultaneously backfilling Area 3. Four soil stockpiles were then present in Area 6. Stockpiles 1 and 2 contained approximately 2,000 tons of soil from Areas 1 and 2. Stockpiles 3 and 4 contained soil/waste from Area 3's embankments. Stockpile 3 was about 2,000 tons and Stockpile 4 was still being formed.

Twelve drums with some degree of labeling were segregated from the other drums and placed on plastic sheeting in the south central portion of Area 6. All other drums uncovered to date were preliminarily sorted and staged together as either "empty", "soil-containing drums" or "waste containing drums". A track hoe was used to crushed empty or soil-containing drums and then placed them into separate piles according to the Area where they were found. These crushed drums were eventually transported off-site for disposal along with the associated stockpiled soil.

Mr. Matt Schalich was on site and acting as temporary On-Scene Coordinator through December 8, 1999 in Kevin Turner's absence.

Sample Collection: Four select drum content samples Drum-052, Drum-102, Drum-112 and Drum-246, all of which came from Area 1, were collected on 12/2/99. Each of these samples represented the contents of a single drum and was analyzed for volatile organic compounds (VOCs), semi-VOCs, metals and polychlorinated biphenols (PCBs) Priority Pollutants to evaluate the types and degree of hazardous constituents present in the wastes.

Week Ending December 10, 1999 (Cumulative Drum Count @ approx. 860)

ER continued to segregate, crush and stage drums for disposal. Four small piles of soil (approximately 100 tons each) from Stockpile 1 were blended with EnviroBlend™ in order to fixate the lead present in the soil so that the lead toxicity characteristic would be eliminated (i.e. the lead would be rendered non-leachable from the soil). The mixing process was also expected to eliminate the trichloroethene (TCE) toxicity characteristic. EnviroBlend™ consists of dry granules of magnesium oxide and calcium phosphates.

The goal of this treatment was to render the soil RCRA non-hazardous leaving a TSCA waste containing PCBs as the only toxic substance. Successful treatment would prevent costly incineration of several thousand tons of soil. The four small piles were pilot treatment batches to be tested to confirm that the toxicity characteristic of lead and trichloroethene were eliminated prior to commencing with full-scale soil treatment.

October 31, 2000

Sample Collection: Three additional select drum content samples, Drum-395, Drum-615 and Drum-775, were collected on 12/6/99. Each of these samples represented the contents of a single drum and was to be analyzed for volatile organic compounds (VOCs), semi-VOCs, metals and polychlorinated biphenols (PCBs) Priority Pollutants to evaluate the types and degree of hazardous constituents present in the wastes.

Four composite samples of EnviroBlend™-treated soil (BP-01, BP-02, BP-03 and BP-04) were collected on 12/8/99. Each sample represented one of four pilot test batch piles. The samples were tested for PCBs and the toxicity characteristic of VOCs and RCRA metals.

For disposal purposes, EPA has identified six general waste types among the drummed wastes recovered to date. The wastes types were chosen based on odor, PID readings for organic vapors and visual character (color, consistency, etc.). Then as discussed above, six individual drum content samples, each representing one of the six general waste types, were collected and analyzed for waste disposal characterization. The drums continued to be segregated for disposal according to the six categories.

Week Ending December 17, 1999 (Cumulative Drum Count @ 900+)

Full-scale treatment of the soil from Stockpiles 1, 2 and 3 began on 12/14/99. ER mixed EnviroBlend™ with soil in about 200-ton batches then covered the soil piles with heavy plastic sheeting. Treatment test soil samples were collected at a frequency of one sample per every third treated pile.

Exploratory excavation began in Area #4 where highly corroded drums and drum fragments were unearthed beneath a layer of municipal waste. These drums contained little to no visually apparent wastes. A soil stockpile (Stockpile #8) consisting of potentially contaminated soil from Area 4 was formed on the east side of Area 4.

Further soil removal from Area 1 was conducted in which a thin layer of black sandy soil below municipal trash was excavated.

Sample Collection: Six groundwater samples were collected on 12/14/00 from test pits located as follows:

- Sample GW-01 – east central side of large East Pond; considered a background sample.
- Sample GW-02 – in Area 3, northwest portion; free-product observed according to E&E
- Sample GW-03 – in Area 1, adjacent to former pond embankment; free-product observed according to E&E
- Sample GW-04 – center of West Pond; free-product observed according to E&E
- Sample GW-05 – north end of West Pond
- Sample GW-06 – southwest corner of West Pond

October 31, 2000

The groundwater samples were analyzed for VOCs, semi-VOCs, pesticides, herbicides, metals and PCBs to evaluate the types, degree and relative distribution of hazardous constituents present in ground water across the pond area.

One grab sample (Cinders-01) of the surficial black, granular, cinder-like material in the drum staging area between Areas 3 and 6 and slightly north of Area 1. This sample was tested for total metals to evaluate the need for removal/disposal.

Week Ending December 24, 1999

Exploration and drum and soil removal continues in Area 4. EnviroBlend™ treatment of soil from Stockpiles 1,2 and 3 continues in Area 6. Further removal of black soil from Area 1 continues. No site work conducted on 12/24/00 due to Christmas Eve break.

Week Ending December 31, 1999

No site work due to holiday break.

4.4 January 2000

Week Ending January 7, 2000

ER constructed a temporary road between the soil staging area in Area 6 and the railroad tracks about 300 feet west of the staging area. This road would be used to transport treated soil, untreated PCB-containing soil and drums via all-terrain dump truck across a low wooded area to a rail car loading zone. Soil loading into railcars was initiated. The soil would eventually be transported to Safety-Kleen's facility in Waynoka, Oklahoma.

Removal of black soil from Area 1 was completed. Excavation in Area 3 was finalized, and final soil covering and grading was completed in Areas 1 and 3. Area 4 exploration and removal excavation continued.

Week Ending January 14, 2000 (Cumulative Drum Count @ 1,150; about 200 drums removed from Area 4)

Area 4 exploration/removal excavation continued with efforts concentrated around a small dry pond at the east-central side of the area. Drums found in Area 4 continued to be highly deteriorated and were present among municipal wastes (rubber, cloth, paper, plastic and metal debris). Strong pungent organic odor (VOC and semi-VOC) was noted from the drums removed from Area 4. Treated and untreated soil from Areas 1,2 and 3 continued to be loaded into railcars and transported off-site. Area 5 exploration was conducted but no waste or soil, which was apparently contaminated, was found. Area 6 exploration begins.

Week Ending January 21, 2000

Area 4 exploration /removal excavation continued with efforts concentrated along west and northwest edges of the area upslope of the small dry pond. Black gelatinous waste with an organic odor was found beneath municipal waste in this portion of Area 4. Newspapers and paraphernalia of Richard Nixon's 1972 presidential campaign were found among the waste.

October 31, 2000

Exploratory excavation was initiated in Area 7 on its northeast end and was proceeding to the southwest.

Week Ending January 28, 2000 (Cumulative Drum Count @ 1,500; 200 + drums removed from Area 7)

Area 7 exploration /removal excavation continued with the vast majority of uncovered waste being municipal (wood, plastic, glass, rubber etc.). Blue-gray sand with a sweet organic odor was encountered in the central portion of Area 7. This sand extended to the depth of ground water at 15 to 20 feet below ground surface. As of 1/27/00, approximately 100 cubic yards of this sand had been removed from Area 7 and stockpiled for disposal in Area 6.

4.5 February 2000

Week Ending February 4, 2000 (Cumulative Drum Count @ 1,580 +; 300 + drums removed from Area 7)

Exploration and removal continued in Area 7. E&E found four metal I.D. plates from electric transformers and labeled "Wagner Electric Co". These plates were found in Area 7 on 2/3/00. A few drums from Area 7 contained a shiny, black vitrified solid in chunks several inches wide with the appearance of anthracite coal.

Final soil cover and grading was conducted in Area #4. Soil stockpile #8 consisted of soil removed from the edges of Area 4 including the two small ponds within and south of Area 4.

Week Ending February 11, 2000 (Cumulative Drum Count @ 1,720 drums)

Exploration and removal continued in Area 7. Drum segregation, crushing and off-site soil and drum transport via rail cars continued.

Sample Collection

On February 7, 2000, one composite soil sample was collected from Stockpile #8 (Area 4 soil) and submitted for laboratory analyses of VOCs, SVOCs, metals and total pesticides. Previous waste characterization analysis of Stockpile #8 soil indicated that the soil was non-hazardous relative to both the RCRA characteristics and PCB content. A composite soil sample was also collected from Stockpile #9 (Area 7 soil including suspect blue-gray sand) and was submitted for laboratory analyses of RCRA hazardous waste characteristics, PCBs, total VOCs, SVOCs, metals and pesticides.

Week Ending February 18, 2000

Exploration and removal continued in Area 7 where over 650 drums had been removed to date. The exploration in Area 6 re-commenced. Long and wide exploratory trenches were excavated in a northeast to southeast direction across Area 6.

October 31, 2000

Week Ending February 25, 2000 (Cumulative Drum Count @ 2,200 drums)

Exploration was completed in Area 7 and the area was backfilled and roughly graded. Exploration and removal continued in Area 6. By week's end, at least 183 drums had been removed from Area 6. Five drums containing a black gelatinous substance were unearthed in the north end of Area 6 on 2/21/00. The material had the consistency of lumpy jam and has a strong semi-volatile odor (possible PNAs are present). Blue-gray sand, suspected to be contaminated with volatile organics, was removed from below four to six feet of municipal waste in Area 6. ER personnel told Kevin Turner that buried drums extend north of Area 6 based on their observations in the northernmost trench sidewalls.

Exploratory excavation began in Area 8, along the northeast side of the West Impoundment. Brick-size chunks of hard residue were uncovered near the surface in Area 8. This residue appears to be waste from metallic ore smelting.

4.6 March 2000

Week Ending March 3, 2000 (Total drum count: 2,750 drums)

Exploratory excavation continued in Areas 6 and 8. Two drums (presumed to have been recovered from Area 6) were staged on plastic sheeting and contained the following label:

889.T?
FH-139
Arochlor 12-12
50/50 Sol.

Dark brown viscous oil appeared to have seeped from these two drums. This oil was suspected to contain PCBs. A few empty large plastic bags (about two-foot by two-foot) were discovered in Area 6. These bags were labeled, "Johns-Manville Asbestos, 7R-06, Product of Canada".

The following is an inventory of the then current waste soil stockpiles on site awaiting off-site disposal:

Waste Soil Stockpile	Origin	Comments
8	Area 4	Soil characterized as non-hazardous waste to be placed in a local permitted landfill
9	Areas 1,6 & 7	Not yet characterized for disposal
10	Area 7	PCBs in soil exceed 200 ppm, characterized as TSCA waste
11	Area 6 & 8	Not yet characterized for disposal

Week Ending March 10, 2000 (Total drum count: 3,131)

ER continued to excavate/explore Area #6 producing long trenches excavated from west to east. Overall exploration in Area 6 was proceeding south. A steel-gray solid material with a dull metallic luster and angular fractures was removed from Area #6. This material apparently

October 31, 2000

solidified in 6 to 8 drums while the drums corroded away leaving the harden contents. A new waste soil stockpile, Stockpile #12, was formed from soil originating from Area 6.

ER continued to excavate/explore Area 8 producing a long, wide trench excavated from north to south. Several empty plastic bags labeled "John-Manville-Asbestos" were uncovered in this trench. These bags were the same as previously discovered in Area 6. Blue-gray fine sand was encountered to a depth of at least ten feet below original grade in five smaller and deeper excavations within the large trench in Area 8. The sand from the southeastern small excavation contained a sweet volatile organic odor.

Hundreds of small white plastic caps for hand-held aerosol spray cans were unearthed in the southwest corner of the East Impoundment, just east of the southern tip of Area 2. These caps were labeled, "ACNIL \$1.50". Rusted, highly corroded aerosol spray cans were scattered among the caps. These materials were left at the ground surface.

Exploration commenced along the southern edges of both Impoundments. Suspect blue-gray sand was excavated from two small trenches in the southeastern tip of Area A. This sand was present beneath a few feet of municipal waste in both trenches.

Week Ending March 17, 2000

Exploration/removal continued in Area 8. Exploration continued along the southern edges of both impoundments.

To date, approximately 15,000 cubic yards of total waste soil had been excavated and designated for off-site removal and disposal. Of that quantity, approximately 8,200 tons had already been shipped off site by rail cars.

Week Ending March 24, 2000 (Total final drum count: 3,253. See Table 2)

Exploration/removal was completed in Area 8. Exploration along the southern edges of both Impoundments was completed and no waste or contaminated soil was discovered. A drum labeled "Flint Ink" was discovered in Area 8. Soil from Stockpiles 8 (Area 4) and 12 (Area 6) was loaded and transported off-site for disposal in Waste Management's Milam Landfill in East St. Louis, Illinois. Table 3 presents a summary of the origin and disposal status of the various soil stockpiles created on site as of March 22, 2000.

October 31, 2000

Table 2 – Inventory of Removed Drums

Site Area #	Number of Drums Removed
A	2
1	500+
2	50+
3	300+
4	454
5	None
6	1,165
7	690
8	92

Table 3 – Status of Waste Soil Stockpiles

STOCKPILE #	AREA #	TREATED (Yes/No)	DATES SHIPPED
1	1	Yes	1/07/00 – 1/15/00
2	1 & 2	Yes	1/16/00 – 1/20/00
3	3	No	1/28/00 – 1/31/00
4	3	Yes	1/06/00
5	3	Yes	1/05/00
6	2 (Drum Area)	No	1/19/00
7A/9	1	No	On site, combined w/pile #9 on 1/27/00
7B/9	6	No	On site, combined w/pile #9 on 1/27/00
8	4	No	3/20/00 – 3/22/00
9	1, 6 & 7	No	On site
10	7	No	On site
11	6 & 8	No	On site
12	6 & 8	No	3/22/00-3/24/00

October 31, 2000

Week Ending March 31, 2000

Off-site shipment of PCB-containing waste soil from Stockpiles 9, 10 and 11 began. This soil was shipped off-site to Safety-Kleen's Lone & Grassy Mountain landfill in Waynoka, Oklahoma via rail cars.

Final grading of Areas 6, 7 and 8 began. These areas were also covered with a few inches of silty soil scraped from the bottom of both impoundments.

Sample Collection

On March 29, 2000, 24 surficial grab soil samples were collected from Areas 1 through 4 and Areas 6, 7 and 8 (See Figure 2 for sample locations). All of these samples were analyzed for PCBs to evaluate the shallow levels, if any, of PCBs remaining with the removal action completed.

4.7 April 2000

Week Ending April 7, 2000

Off-site shipment of PCB-containing waste soil from Stockpiles 9, 10 and 11 was completed.

Covering and final grading of Areas 6, 7 and 8 continued.

Week Ending April 14, 1999

Covering and final grading of Areas 6, 7 and 8 continued. Only the seeding of Areas 3 and 6 was observed. Seeding of other disturbed areas may have been conducted the following week. The access road to the railroad loading area was removed and the rock was used for erosion control in Area 6.

Personnel from US EPA Region V (Chicago, Illinois) performed a GPS land survey of the southern portion of Site Q including the exploration/removal extent of Areas A and 1 through 8. Figure 2 was prepared from this GPS survey.

Sample Collection

Seven surficial grab soil samples (RS-01(A) through RS-07(A)) were collected on and in the vicinity of the former rail loading access road (See Figure 2 for sample locations). All of these samples were analyzed for PCBs to evaluate the shallow levels, if any, of PCBs remaining with the removal action completed.

Week Ending April 21, 1999

Covering and final grading of Areas 6, 7 and 8 was completed. All equipment and personnel were demobilized with the exception of the two site trailers.

October 31, 2000

5.0 Laboratory Results and Contaminants of Concern

Summaries of laboratory results of waste characterization, soil quality and groundwater quality are presented on Tables 4, 5 and 6, respectively, as generated by EPA's contract laboratory, American Technical & Analytical Services Inc. (ATAS) in Maryland Heights, Missouri. In general, only those constituents that were present above their respective laboratory method detection limits are presented on Tables 4, 5 and 6. This data was produced during the early stages of the removal action and therefore is considered limited in that it is associated with only Areas 1, 2 and 3 with some soil quality data representing the surficial edges of Area 8. This is the only laboratory data provided to Premier during the removal action.

Upon review of the concentration levels of the detected constituents, Premier identified contaminants of concern (COCs) based on the following criteria:

Drummed waste and waste soil

- RCRA hazardous waste characteristics exceeding the regulatory level
- PCBs (individual or total concentrations) exceeding 50 ppm
- Metals concentrations that are at least ten times as great as ambient soil concentrations
- Total COC concentrations approximately greater than or equal to one percent, by weight, of the waste.

Soil and/or Groundwater Quality

COCs with concentrations exceeding Illinois EPA Tier 1 Soil Remediation Objectives (SROs) and/or Groundwater Remediation Objectives (GROs) for one or more human health exposure routes.

Table 7 presents a summary of the COCs, their concentration ranges detected at the site and preliminary regulatory concentration guidelines. The RCRA hazardous waste characteristic, ignitability, was identified for wastes from Areas 1, 2 and 3. However, this characteristic is generally reserved only for liquid wastes to define it as a RCRA hazardous waste for generator, transporter and treatment, storage and disposal purposes.

October 31, 2000

TABLE 7 - Summary of Identified Hazardous Parameters and Contaminants of Concern (COCs)
 Removal Action - October 1999 Through April 2000
 U.S. EPA Region 5

COC/Parameter	Media	Site Location	Units	Regulatory Levels		Maximum Ambient Soil Concentration	Lab Result Range
				RCRA or TSCA	Lowest SRO or GRO		
Ignitability	Waste Soil	Areas 1, 2 & 3	° F	> 140			122 to 138
	Drummed Waste						60.9 to 131
VOCs							
Total 1,2 - Dichloroethene	Waste Soil	Area 1	mg/kg		4.5		85 to 160
Ethylbenzene	Waste Soil	Area 1			19		28 to 180
	Drummed Waste	Area 3				40,000	
Methylene Chloride	Ground Water	Areas 1 & 3	mg/L		0.05		1.6 to 5.9
n-Propylbenzene	Drummed Waste	Area 1	mg/kg				7,100
Toluene	Waste Soil	Area 1			29		220 to 11,300
	Drummed Waste	Area 1					23,000
		Area 3					10,000
1,2,4-Trichlorobenzene	Waste Soil	Area 1			53		140
1,3,5-Trimethylbenzene	Drummed Waste	Area 1					14,000
1,2,4-Trimethylbenzene	Drummed Waste	Area 1					10,000 to 40,000
Trichloroethene	Waste Soil	Areas 1 & 2	mg/L	0.5			0.52 to 0.62
		Area 1	mg/kg		0.3		22 to 160
	Drummed Waste	Area 1	mg/L	0.5			1.2 to 1.4
			mg/kg				17,000
1,1,1- Trichloroethane	Waste Soil	Area 1	mg/kg		9.6		140
Xylenes (Total)	Waste Soil	Area 1			150		296 to 1,660
	Drummed Waste	Area 1					7,200 to 17,200
		Area 3					58,000

October 31, 2000

COC/Parameter	Media	Site Location	Units	Regulatory Levels		Maximum Ambient Soil Concentration	Lab Result Range	
				RCRA or TSCA	Lowest SRO or GRO			
Semi-VOCs								
Benzo(a)anthracene	Surficial In-place Soil	West Edge of Area 8	mg/kg		8		270	
Benzo(b)fluoranthene					8		549	
Benzo(k)fluoranthene					78		535	
Indeno (1,2,3-cd) pyrene					8		507	
Benzo (a) pyrene	Waste Soil	Area 4			0.8		6.9	
	Surficial In-place Soil	West Edge of Area 8					813	
Dibenzo (a,h) anthracene	Waste Soil	Area 4			0.8		1.4	
	Surficial In-place Soil	West Edge of Area 8					174	
Naphthalene	Waste Soil	Area 1			420		98 to 630	
	Drummed Waste						4,900 to 35,000	
Bis (2-chloroethyl) ether	Waste Soil	Area 4			0.0004		14	
Bis (2-ethylhexyl) phthalate	Waste Soil	Area 1			410		850	
2,4-Dimethylphenol	Drummed Waste	Area 1					21,400	
2-Methylphenol							18,600	
3,4-Dimethylphenol							46,200	
Phenol							66,300	
Total PCBs (Aroclors 1248, 1254 & 1260)	Waste Soil	Area 1 & 2	mg/kg	10	10		254 to 2,320	
		Area 3					104.9	
	Drummed Waste	Area 1		500				575 to 5,560
		Area 3						2,188
Metals								
Arsenic	Ground Water	Area 1	mg/L		0.2		0.43	

October 31, 2000

COC/Parameter	Media	Site Location	Units	Regulatory Levels		Maximum Ambient Soil Concentration	Lab Result Range
				RCRA or TSCA	Lowest SRO or GRO		
Chromium	Drummed Waste	Area 1	mg/kg		420	1,000	7,400
Copper	Waste Soil	Area 1			200,000	100	103
	Surficial In-place Soil	Area 8					128 to 2,640
Lead	Waste Soil	Areas 1 & 2	mg/L	5			8.69 to 14.8
		Area 1	mg/kg	400		200	764
	Drummed Waste	Area 1	mg/L	5			5.19 to 387
			mg/kg			200	1,030 to 18,400
	Surficial In-place Soil	Area 8		400		200	346 to 2,880
		Area A					118
Silver	Surficial In-place Soil	Area 8	mg/kg			5	14.3
Thallium	Waste Soil	Area 1			30	0.1	1.83
	Surficial In-place Soil	Area 8					2.05 to 5.86
Zinc	Waste Soil	Area 1	mg/kg		15,000	300	668
	Surficial In-place Soil	Area 8	mg/kg				365 to 1,860
	Drummed Waste	Area 1	mg/kg				1,050 to 8,870

October 31, 2000

6.0 Waste Treatment/Disposal Methods & Off-Site TSD Facilities

There were two general waste types transported and disposed of off-site as follows:

- Low-level PCB waste stream (< 50 ppm total PCBs) consisted of approximately 3,260 tons of soil (163 truck loads).
- PCB waste stream (> 50 ppm total PCBs) consisted of approximately 13,772 tons of soil and debris (141 rail cars).

Table 8 presents the general waste treatment and disposal procedures executed for the drummed waste and waste soil generated from each site area. The quantity of drummed waste was small relative to the large volume of waste soil, i.e. the total drum volume was less than 8% of the total waste removed from the site. Therefore, the waste that was contained in drums was mixed with the soil from the Site Area or portion of the Site Area from which the drum(s) were recovered. The drums were then thoroughly crushed and placed, a few at a time, in the corresponding soil loads to be shipped off-site for disposal.

Waste soil that exhibited the toxicity characteristic for lead was blended with EnviroBlend™ in order to fixate the lead present in the soil so that the lead toxicity characteristic would be eliminated (i.e. the lead would be rendered non-leachable from the soil and thus suitable for landfilling). The mixing process also eliminated the trichloroethene (TCE) toxicity characteristic.

EnviroBlend™ consists of dry granules of magnesium oxide and calcium phosphates. EnviroBlend™ was mixed in approximately 200-ton batches of soil using a backhoe. The goal of this treatment was to render the soil non-hazardous with respect to RCRA leaving a TSCA waste containing PCBs as the only toxic substance. Successful treatment prevented costly incineration of 5,400 tons of waste soil and allowed the soil to be placed into a permitted landfill.

October 31, 2000

Table 8 - Waste Treatment and Disposal Procedures

Soil Stockpile	Site Area	Waste Classification As Generated	Treated with EnviroBlend (Yes/No)	Mode of Shipment	Landfill Facility
1	1	RCRA and TSCA	Yes	Rail Cars	Safety Kleen's Lone & Grassy Mountain facility Waynoka, Oklahoma
2	1 & 2				
3	3	TSCA	No		
4	3	RCRA and TSCA	Yes		
5	3				
6	2	TSCA	No		
7A/9	1				
7B/9	6				
8	4	Illinois Special Waste		Truck	Waste Management's Milam Recycling and Disposal Facility East St. Louis, Illinois
9	1, 6 & 7	TSCA		Rail Cars	Safety Kleen's Lone & Grassy Mountain facility Waynoka, Oklahoma
10	7				
11	6 & 8				
12	6 & 8	Illinois Special Waste		Truck	Waste Management's Milam Recycling and Disposal Facility East St. Louis, Illinois

October 31, 2000

7.0 Suspect Non-Participating Potentially Responsible Parties (PRPs)

The physical characteristics, usage and potential sources of the COCs detected on the subject site are presented on Table 9. Suspect non-participating PRPs were identified based on one or more of the following: 1) previous listing by EPA, 2) observations of wastes, waste container markings and other labeling and/or 3) one or more site-specific COCs potentially related to the companies whose names are associated with Item 2.

Table 10 presents a list of suspect non-participating waste generator PRPs and information that makes them suspect.

October 31, 2000

TABLE 9 - Characteristics, Usage and Potential Sources of COCs
 Removal Action - October 1999 Through April 2000
 U.S. EPA Region 5

COCs	Physical Character	Usage	Potential Origin(s)
Volatile Organic Compounds			
Ethylbenzene	Colorless liquids sweet, gasoline-like odor S.G. approx. 0.87	All have solvent applications for paints, lacquers, gums, resins and other coatings.	<ul style="list-style-type: none"> Wastes from paint/coating manufacturer(s) and/or commercial painter(s) Waste from plastic manufacturer(s) Spent solvents from rubber manufacturing, ink manufacturing and/or commercial printing
Toluene		All have diluent applications for such things as production of synthetic rubber, dyes, inks and paper coatings.	
Xylenes (Total)		Ethylbenzene is an intermediate for styrene monomer production. The largest chemical use for toluene is the production of benzene and urethane via hydro de-alkylation	
n-Propylbenzene	Colorless liquid S.G. = 0.86	Used in textile dyeing and printing Solvent for cellulose acetate in manufacturing of methyl styrene	<ul style="list-style-type: none"> Spent solvent from commercial printing. Solvent evaporation waste from plastic manufacturer(s). Occurs naturally in petroleum and bituminous coal and general use of asphalt can release it to soil.
1,3,5-Trimethylbenzene	Colorless liquid, peculiar odor S.G.=0.86	Potential uses as follows: <ul style="list-style-type: none"> Solvent and paint thinner Chemical intermediate for anthraquinone vat dyes UV oxidation stabilizers for plastics 	<ul style="list-style-type: none"> Wastes from paint/coating manufacturer(s) and/or commercial painter(s) Waste from dye manufacturing Waste from plastic manufacturer(s)
1,2,4-Trimethylbenzene	No pertinent data found		

October 31, 2000

COCs	Physical Character	Usage	Potential Origin(s)
Total 1,2 - Dichloroethene	Colorless, clear liquids with a sweet, chloroform-like odor S.G. = 1.34 to 1.46	<u>Various uses of chlorinated VOCs</u> Cleaning solvents and diluents for organic materials such as paints, coatings, adhesives and paint-stripping formulations Vapor degreasers of fabricated metal parts; solvent base for metal phosphatizing systems; dry cleaning agent in cold type metal cleaning and coolant and lubricant in metal cutting oils Organic chemical and plastics manufacturing such as: <ul style="list-style-type: none">o Solvent of sulfur & phosphorus refrigerant & heat exchange liquido TCE is the chain terminator in production of polyvinyl chloride (PVC) plastic Used in the manufacturing of aerosols, drain cleaners, electronic components and inks. 1,1,1-TCA used as a post-harvest fumigate of strawberries	Spent solvents and process oils from the following: <ul style="list-style-type: none">o Commercial machine shops, tool and dyeo Metal parts fabricatorso Paint/coating manufacturer(s) and/or commercial painter(s)o Chemical manufacturers Unused or spent solutions from various manufacturers and industries Note that 1,2 DCE is a potential degradation product of TCE
Trichloroethene			
1,1,1-Trichloroethane			
Semi-Volatile Organic Compounds			
Benzo(a) anthracene	Pale yellow to colorless crystalline solids re-crystallized from various light organics such as alcohol, benzene, toluene or glacial acetic acid or methanol	Polynuclear Aromatic Hydrocarbons (PNAs), research chemicals with no evidence of commercial use in USA.	Ubiquitous products of incomplete combustion of carbon-containing materials such as: <ul style="list-style-type: none">o Municipal waste incinerationo Wood, coal and other fossil fuelso Coke oven emissions (iron and steel production)
Benzo(b) fluoranthene			
Benzo(k) fluoranthene			
Benzo (a) pyrene			
Dibenzo (a,h) anthracene			

October 31, 2000

COCs	Physical Character	Usage	Potential Origin(s)
Indeno (1,2,3-cd) pyrene	Faint aromatic odor S.G. approx. 1.3		Wastewater sludge from: <ul style="list-style-type: none"> iron and steel manufacturing non-ferrous metals manufacturing
Naphthalene	White, crystalline flakes, shipped as a melted solid (white tar) with a strong mothball-like odor	Chemical intermediate for the following: phthalic anhydride, 1-naphthyl-n-methylcarbamate (carbamate insecticides), beta-naphthol, naphthalene sulfonic acids, synthetic tanning agents, surfactants and moth repellants.	Wastewater sludges from the following industries: <ul style="list-style-type: none"> paint and ink formulation electrical components commercial laundries iron and steel manufacturing Unused material from chemical manufacturing
Bis (2-chloro ethyl) ether	Colorless, clear liquid with a pungent nauseating odor S.G.= 1.22	<ul style="list-style-type: none"> Reagent for organic chemical synthesis Dry cleaning Scavenger for lead deposits in gasoline Manufacturing of pharmaceuticals Formerly used in a variety of pesticides Selective solvent in high-grade lubricating oils Used in aerosols 	<ul style="list-style-type: none"> Wastes from petrochemical production Wastes from chemical and pesticide manufacturer(s) Spent dry cleaning solutions from commercial cleaners
Bis (2-ethylhexyl) phthalate	Light colored to colorless oily liquid with slight odor S.G.=0.98	Plasticizer for poly vinyl chloride (PVC) plastic and other polymers in large quantities. Used widely in insect repellent and pesticide formulations, cosmetics, rubbing alcohol, liquid soap, detergents, decorative inks, lacquers, munitions, industrial and lubricating oils, di-electric fluids in electrical capacitors and de-foaming agents in paper manufacturing.	<ul style="list-style-type: none"> Unused material from plastic manufacturing Wastewater sludges from water-based paint plants and ink manufacturers. Wastes from chemical and pesticide manufacturer(s) Waste oils from electric companies. Wastes from petrochemical production

October 31, 2000

COCs	Physical Character	Usage	Potential Origin(s)
2,4-Dimethylphenol	Colorless to yellow-brown crystals or clear, dark amber liquid S.G.=1.03 to 1.05	Manufacture of disinfectants, solvents, food antioxidants pharmaceuticals, insecticides, fungicides, plasticizers, rubber chemicals, wetting agents, artificial resins and plastics and as additives or constituents of lubricating oil, gasoline and cresylic acid. 2-Methylphenol is also used as a metal cleaner, for ore flotation, as a textile scouring agent, organic chemical intermediate and in the manufacturing of dyes, plastics, herbicides, tricresyl phosphate, salicylaldehyde and coumarin.	<ul style="list-style-type: none">• Unused material from plastic and/or rubber manufacturing• Unused or spent disinfectants from the manufacturer or commercial cleaning operations such as a hospital.• Wastes from chemical, petrochemical and pesticide manufacturing• Wastewater sludge from metallic ore processing
2-Methylphenol			
3,4-Dimethylphenol	No pertinent data found		
Phenol	Colorless to white sand-like crystals (may be pink to red liquid if not in pure form), soluble S.G.=1.07	General disinfectant in germicidal solutions, paints and slimicides. Phenol is still the standard against which other antiseptics are compared. Also used in plywood, pharmaceuticals, plastics, adhesives and rubber manufacturing and as a solvent for petroleum refining	<ul style="list-style-type: none">• Housing and construction industry waste (about half of USA phenol consumption is directly related to these industries)• Unused material from the preparation of phenolic resins (the largest single use of phenol)• Unused material from plastic and/or rubber manufacturing and petroleum refining
Total PCBs (Aroclors 1248, 1254 & 1260)	Colorless oil to light yellow, soft, sticky resin S.G. approx. 1.4 to 1.5	Formerly used in the following (Use was discontinued in late 1977): electrical transformer oils, hydraulic fluids, vacuum pumps, rubber plasticizers, synthetic resins and adhesives.	<ul style="list-style-type: none">• Incineration of municipal refuse and sewage sludge• Improper disposal of waste transformer fluid

October 31, 2000

COCs	Usage	Potential Origin(s)
Metals		
Arsenic	<ul style="list-style-type: none"> Major uses of arsenic in the U.S.: wood preservatives (74 % of all arsenic), agricultural products (19 %), glass (3 %), nonferrous alloys (2 %), and other uses (2 %). Arsenic compounds are widely used as insecticides. 	<ul style="list-style-type: none"> Produced primarily as a by-product from the operation of copper and lead smelters. Off-specification (waste) insecticides
Chromium	<ul style="list-style-type: none"> Alloying and plating element on metal and plastic substrates for corrosion resistance, protective coatings for automotive and equipment accessories. Chromium compound are used in: nuclear and high temperature research, dyes and pigments, fungicides and wood preservatives (including chromated copper arsenate, CCA) 	<ul style="list-style-type: none"> Waste from steel foundries. Waste from specialty and organic chemical manufacturers. Paint and dye wastes. Electroplating sludge
Copper	<ul style="list-style-type: none"> Manufacture of insecticides, fungicides and herbicides; anti-fouling paints, corrosion inhibitors, fabric and textiles, glass and ceramics. Used in electrolysis and electroplating processes, in flameproofing and as a fuel additive. 	<ul style="list-style-type: none"> Copper smelter waste Paint and electroplating wastes <p>PETROLEUM REFINERY WASTE</p>
Lead	<ul style="list-style-type: none"> Formerly used as an additive in paints for durability Present as an impurity in fertilizers Used in cable covering, sheet & pipe, solder and fusible alloys, type metal, vibration damping in heavy construction and storage batteries 	<ul style="list-style-type: none"> Lead and/or copper smelter waste Waste paint from paint manufacturer or commercial painter.
Silver	<ul style="list-style-type: none"> Used in electrical components including batteries Used in scientific apparatus Silver bromide for photographic processing 	<ul style="list-style-type: none"> Usually a by-product of the extraction of copper, lead, and zinc (sulfide smelting and distillation for these three metals is common). "Anode slimes" from the electrolytic purification of copper contain silver.
Thallium	<ul style="list-style-type: none"> Used in rodenticides Production of semi-conductors, photoelectric equipment, lenses and thermometers. 	<p>COMPONENT IN FLUE DUST FROM LEAD AND ZINC ORE SMELTERS ALONG WITH ARSENIC. THALLIUM IS EXTRACTED BY ADDING HCL TO LEAD SULPHATE TO PRECIPITATE THALLIUM CHLORIDE, TLCL.</p>
Zinc	<ul style="list-style-type: none"> Galvanization of iron and steel for corrosion protection Zinc alloy die casting Used in paints, printing plates and flashlight batteries Zinc oxide used in tire rubber, cosmetics and pharmaceutical products 	<ul style="list-style-type: none"> Waste from sulphide ore smelting to produce zinc oxide. Waste paint from paint manufacturer or commercial painter Unused material from rubber manufacturing.

October 31, 2000

Table 10 – Non-Participating PRPs Referenced on Waste Material
 Discovered During Removal Action

Suspect PRP	Identified By U.S. EPA ?	Business Classification/ Products	COCs and/or Assoc. Wastes Present In Site Q	Assoc. Removal Action Observations
Mallinckrodt	No	Nuclear chemicals, food chemicals and medicinal/pharmaceutical chemicals including PAP (para- aminophenol) technology for making acetaminophen	2,4-dimethylphenol 2-methylphenol Phenol	3 to 6 drums and up to 4, 5-gallon metal buckets labeled with "Mallinckrodt" or had a distinctive blue color matching labeled containers. 12 amber glass jars suspected to contain unused laboratory reagents contained in a 55-gallon drum
Wagner Electric Co.	No	Manufacturer of electronic components including transformers	Chlorinated solvents Naphthalene Bis (2-ethylhexyl) phthalate PCBs	Four I.D. plates from electric transformers labeled Wagner Electric Corporation - St. Louis, MO were found in Area 7
Dow Chemical Company (Pevely, MO)	No	Styrofoam and polystyrene production	Ethylbenzene n-Propylbenzene 1,1,1-TCA	Two drums found labeled "Chlorothene NU" (1,1,1-TCA) one of which was from Area 1
Calgon Vestal Laboratories	No	Manufacturer of cleaning materials for infection-control		One orange 55-gallon drum with a dark blue label and "Vestal" printed on it.
Amchem Products Inc.	No	Asbestos		One 55-gallon drum labeled Amchem Products Inc. was uncovered
Flint Ink Corporation	No	Manufacturer of a variety of inks	Ethylbenzene, toluene, xylenes Chlorinated solvents Naphthalene Bis (2-ethylhexyl) phthalate	One 55-gallon drum labeled "Flint ink" was uncovered
Amax Zinc	Yes			
Olin Corporation	Yes	Casting and rolling mill producing copper and copper-based alloy sheet, strip, tube and fabricated products Supplier of metal to the U.S. Mint	Copper, Zinc Chlorinated VOCs	

U.S. EPA Region V Removal Action Report
 Southern Portion of Site Q, Area 2
 Cahokia, Illinois

October 31, 2000

Suspect PRP	Identified By U.S. EPA ?	Business Classification/ Products	COCs and/or Assoc. Wastes Present In Site Q	Assoc. Removal Action Observations
Masury Young Company	No	No Information Found		One 55-gallon drum labeled "Mycro Gloss", self-healing floor dressing
Johns-Manville	No	Insulation materials (formerly asbestos), commercial/industrial roofing, reinforcements and filtration media		Several empty bags labeled "John-Mansville, 7R-06 Asbestos were uncovered in Area 6.
West		No Information Found		Two drums found labeled "WEST"

October 31, 2000

TABLES 4, 5 and 6

Table 4 - Waste Characterization Results
Removal Action - October 1999 Through April 2000
U.S. EPA Region 5

10/31/00

Media	Waste Soil			Drummed Waste									
Site Location	Area 1 Composite	Area 1 & 2 Composite	Area 3 Composite	Area 1, Composite of Initial 80 Drums Removed	Area 1, Composite of Drums 300 to 400	Area 1, Individual Drum Samples						Area 3, Individual Drum Samples	
Depth (ft. bgs)	0 to 6		0 to 10	0 to 4		0 to 4						0 to 10	
Sample I.D.	Pile-02	Pile-02A	Pile-03	Drum-03	Drum-04	D-Dow	D-052	D-102	D-112	D-246	D-395	D-615	D-775
IGNITABILITY (Flashpoint, °F)	>200	122	138	190	120	<140	131	111	90.1	80	126	60.9	>200
REACTIVITY													
Reactive Cyanide (mg/kg)	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
Reactive Sulfide (mg/kg)	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
CORROSIVITY (pH, S.U.)	7.7	7.2	7.6	6.4	7.8	NA	4.0	5.0	6.0	5.0	6.0	3.4	6.0
FREE LIQUIDS? (Paint Filter Test)	No	No	No	No	No	NA	NA	NA	NA	NA	NA	NA	NA
TOXICITY													
TCLP Metals (mg/l)													
Barium	1.53	1.25	1.17	ND	1.36	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.331	0.3	0.231	0.197	0.205	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	0.04	0.031	0.074	0.055	0.207	NA	NA	NA	NA	NA	NA	NA	NA
Lead	14.8	8.69	1.05	387	5.19	NA	NA	NA	NA	NA	NA	NA	NA
TCLP Volatiles (mg/l)													
Trichloroethene	0.62	0.52	ND	1.4	1.2	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.08	0.05	ND	0.18	ND	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	0.022	0.026	ND	0.018	ND	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	0.026	0.014	ND	0.02	ND	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Ethyl Ketone	0.19	0.046	ND	0.6	10	NA	NA	NA	NA	NA	NA	NA	NA
TCLP Semi-Volatiles (mg/l)													
o-Cresol	0.49	0.742	0.613	1.9	4.04	NA	NA	NA	NA	NA	NA	NA	NA
m,p-Cresol	0.77	0.599	1.11	2.4	5.03	NA	NA	NA	NA	NA	NA	NA	NA
Total Cresols	1.26	1.34	1.73	4.3	9.07	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	0.01	0.001	ND	0.007	ND	NA	NA	NA	NA	NA	NA	NA	NA
TCLP Pesticides (mg/l)													
Heptachlor	0.0008	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
TCLP Herbicides (mg/l)													
2,4-D	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
Polynated Biphenyls (PCBs), mg/kg													
Aroclor 1248	116	113	83.3	257	2,780	--	17.7	1,720	1,670	ND	ND	1,410	ND
Aroclor 1254	ND	ND	ND	ND	2,780	--	ND	ND	2,870	692	379	778	0.728
Aroclor 1260	166	141	21.6	987	ND	--	5.27	988	ND	659	196	ND	0.286
Total PCBs	282	254	104.9	1,244	5,560	5,042	22.97	2,708	4,540	1,351	575	2,188	1.014

Table 4 - Waste Characterization Results
Removal Action - October 1999 Through April 2000
U.S. EPA Region 5

10/31/00

Media	Drummed Waste							
Site Location	Area 1, Individual Drum Samples						Area 3, Individual Drum Samples	
Depth (ft. bgs)	0 to 4						0 to 10	
Sample I.D.	D-052	D-107	D-112	D-246	D-395	D-Dow	D-615	D-775
Volatiles, Total (mg/kg)								
Benzene	6.2	ND	ND	ND	ND		ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND		ND	1
n-Butylbenzene	ND	ND	760	ND	ND		ND	ND
sec-Butylbenzene	5.5	55	ND	ND	ND		ND	ND
1,2-Dichlorobenzene	ND	ND	ND	180 / 230	ND		ND	ND
Ethylbenzene	100	470	2,200	520	ND		40,000	0.51
Isopropylbenzene	11	88	550	1,400	ND		700	ND
p-Isopropyltoluene	15	130	ND	580	ND		ND	ND
4-Methyl-2-pentanone	61	ND	1,800	ND	ND		ND	ND
n-Propylbenzene	29	280	2,000	7,100	ND		680	0.13
Toluene	450	3000	23,000	2,400	ND		10,000	4.5
1,2,4-Trichlorobenzene	ND	09	ND	300	ND		ND	ND
1,3,5-Trimethylbenzene	52	510	2,800	14,000	ND		940	0.42
1,2,4-Trimethylbenzene	170	1,600	10,000	40,000	390		2,100	1.2
Xylenes (Total)	170	3,800	17,200	7,200	1,450	5,800	58,000	3.1
1,1-Dichloroethane	4.5	ND	ND	ND	ND		ND	ND
cis-1,2-dichloroethene	ND	ND	ND	ND	ND		ND	0.19
Methylene Chloride	49	42	1,900	ND	900		3,500	0.18
1,1,1-Trichloroethane	20	ND	ND	ND	ND		ND	ND
Trichloroethene	ND	240	17,000	ND	460	120	1,100	0.2
Semi-volatiles, Total (mg/kg)								
Benzyl alcohol	ND	ND	ND	ND	ND		24	ND
Bis (2-ethylhexyl) phthalate	ND	580	2,300	240	120		9.3	ND
Butylbenzylphthalate	ND	120	220	ND	ND		ND	ND
1,4-Dichlorobenzene	ND	ND	ND	30	ND		ND	ND
2,4-Dichlorophenol	ND	ND	ND	130	ND		ND	ND
2,4-Dimethylphenol	ND	390	2,400	21,400	90		ND	ND
Di-n-butylphthalate	ND	180	ND	ND	ND		ND	ND
Di-n-octylphthalate	ND	ND	ND	ND	ND		ND	2.5
Isophorone	ND	ND	ND	ND	ND		8.1	ND
2-Methylphenol	ND	590	1,100	18,600	ND		2	ND
3,4-Dimethylphenol	ND	1,400	1,800	46,200	ND		ND	ND
4-Methylphenol	ND	ND	ND	ND	ND		7.1	ND
Naphthalene	96 / 85	1,700 / 2,400	5,700 / 6,500	460 / 540	4,900 E / 35,000	3,110	900 / 34	1 / 8.2
2-Methylnaphthalene	100	130	270	100	160		ND	ND
Phenol	ND	810	ND	66,300	ND		ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	34	ND		ND	ND

Table 4 - Waste Characterization Results
Removal Action - October 1999 Through April 2000
U.S. EPA Region 5

10/31/00

Media		Drummed Waste							
Site Location		Area 1, Individual Drum Samples						Area 3, Individual Drum Samples	
Depth (ft. gs)		0 to 4						0 to 10	
Sample I.D.		D-052	D-102	D-112	D-246	D-395	D-Dow	D-615	D-775
Metals, Total (mg/kg)									
Antimony		ND	60.4	ND	15.4	ND		ND	ND
Arsenic		ND	1.77	ND	3.77	ND		6.2	1.78
Beryllium		ND	ND	ND	ND	ND		0.93	ND
Cadmium		ND	651	1.02	170	ND		ND	1.34
Chromium		5.68	7,400	616	827	3.39		11.2	28.9
Copper		ND	57.4	8.47	189	ND		4.15	32.7
Lead		290	3,110	248	1,030	0.55	18,400	17.3	200
Nickel		1.29	10.2	4.28	403	ND		3.99	11
Selenium		ND	173	ND	45.6	ND		ND	ND
Silver		ND	ND	ND	2.13	ND		ND	ND
Zinc		39.7	8,870	207	1,050	ND		97.8	125
Mercury		ND	0.417	ND	ND	ND		ND	ND

Table 5 - Soil Quality Results
Removal Action - October 1999 through April 2000
U.S. EPA Region 5

10/31/00

Site Location	Drum Spill Zone in Area 1, Grab	Drum Zone Composite in Area 1	Area 1 Composite		Area 1 & 2 Composite	Area 3 Composite	Area 4 Composite	Southwest Edge of Area A (base of slope)	Southwest Corner of Area 8 (base of slope)			West-Center Edge of Area 8 (base of slope)		Northwest Edge of Area 8 (base of slope)	Approx. Center of West Pond	Southwest Edge of Area 8 (mid slope)
Depth (ft. bgs)	0 to 4		0 to 5		0 to 10	0 to 8	0-0.5	0-0.5	1.5	0-0.5	1.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sample I.D.	Drum 01	Drum 02	Pile 01	Pile 02	Pile 02A	Pile 03	Pile 08	SS-01	SS-02	SB-01	SS-03	SB-02	SS-04	SS-05	SS-06	
Metals (mg/kg)																
Arsenic	NA	NA	8.99	NA	NA	NA	9.32	7	8.58	12.8	9.13	19.9	4.12	4.59		
Beryllium	NA	NA	0.237	NA	NA	NA	0.288	0.421	0.422	0.379	0.58	0.642	0.371	0.591		
Cadmium	NA	NA	65.1	NA	NA	NA	3.29	1.25	4.76	16.2	36.8	18.9	1.28	1.02		
Chromium	NA	NA	384	NA	NA	NA	141	17.3	2.2	53.8	30.4	84.6	12.2	15.4		
Copper	NA	NA	103	NA	NA	NA	151	45	154	2300	755	2640	56.5	30.9		
Lead	NA	NA	764	NA	NA	NA	162	118	399	1190	656	2880 (7.15)	61.9	38.7		
Nickel	NA	NA	29.1	NA	NA	NA	141	24	32.3	82.1	54.5	105	16	16.7		
Selenium	NA	NA	14.6	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND		
Silver	NA	NA	1.24	NA	NA	NA	ND	ND	ND	ND	5.87	14.3	ND	ND		
Thallium	NA	NA	1.83	NA	NA	NA	ND	1.23	3.81	ND	1.33	5.86	0.659	0.919		
Zinc	NA	NA	668	NA	NA	NA	649	268	708	ND	1700	1860	233	172		
Mercury	NA	NA	0.521	NA	NA	NA	0.522	ND	ND	ND	ND	ND	ND	ND		ND
Polychlorinated Biphenyls (PCBs) (mg/kg)																
Aroclor 1248	--	--	130	116	113	83.3	NA	--	--	--	--	--	--	--	--	--
Aroclor 1260	--	--	207	166	141	21.6	NA	--	--	--	--	--	--	--	--	--
Total PCBs	605	2,320	337	282	254	104.9	NA	0.216	0.345	3.15	0.664	0.793	0.51	0.539	0.788	
Semi-Volatiles (mg/kg)																
Phenol	ND	ND	8.1	NA	NA	NA	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2-chloroethyl) ether	ND	ND	ND	NA	NA	NA	14	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	ND	ND	2.4	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	ND	ND	0.2	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	ND	ND	1.2	NA	NA	NA	0.98	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	ND	ND	14	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,4-Dimethylphenol	ND	ND	45	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	ND	ND	6.6	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	ND	ND	34	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	ND	350	38	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	ND	150	13	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	120	850	120	NA	NA	NA	6.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	ND	ND	0.21	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	ND	ND	2.9	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octylphthalate	ND	ND	0.45	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5 - Soil Quality Results
Removal Action - October 1999 through April 2000
U.S. EPA Region 5

10/31/00

Site Location	Drum Spill Zone in Area 1, Grab	Drum Zone Composite in Area 1	Area 1 Composite		Area 1 & 2 Composite	Area 3 Composite	Area 4 Composite	Southwest Edge of Area A (base of slope)	Southwest Corner of Area 8 (base of slope)		West-Center Edge of Area 8 (base of slope)		Northwest Edge of Area 8 (base of slope)	Approx. Center of West Pond	Southwest Edge of Area 8 (mid slope)
Depth (ft. bgs)	0 to 4		0 to 6			0 to 10	0 to 8	0-0.5	0-0.5	1.5	0-0.5	1.5	0-0.5	0-0.5	0-0.5
Sample I.D.	Drum-01	Drum-02	Pile-01	Pile-02	Pile-02A	Pile-03	Pile-08	SS-01	SS-02	SB-01	SS-03	SB-02	SS-04	SS-05	SS-06
Semi-Volatiles (mg/kg)															
Anthracene	ND	ND	ND	NA	NA	NA	23	ND	ND	151	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	NA	NA	NA	58	0.74	0.74	270	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	NA	NA	NA	6	0.6	0.6	549	ND	1.4	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	NA	NA	NA	58	0.59	0.59	535	ND	1.4	ND	ND	ND
Benzo (a) pyrene	ND	ND	ND	NA	NA	NA	69	0.54	0.54	813	ND	1.8	ND	ND	ND
Benzo (a,h,i) perylene	ND	ND	ND	NA	NA	NA	2	ND	ND	260	ND	ND	ND	ND	ND
Chrysene	ND	ND	0.18	NA	NA	NA	ND	ND	0.78	266	ND	ND	ND	ND	ND
Dibenzo (a,h) anthracene	ND	ND	ND	NA	NA	NA	1.4	ND	ND	174	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	0.22	NA	NA	NA	10	ND	0.92	569	ND	ND	ND	ND	ND
Fluorene	ND	ND	0.24	NA	NA	NA	1.5	ND	ND	ND	ND	ND	ND	ND	ND
Indeno (1,2,3-cd) pyrene	ND	ND	ND	NA	NA	NA	4	ND	ND	507	ND	0.76	ND	ND	ND
Naphthalene	630/ 200	300/ 500	180/ 98	NA	NA	NA	18	ND	ND	4.3	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	30	NA	NA	NA	1.4	ND	ND	3.3	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	0.52	NA	NA	NA	13	ND	ND	427	ND	ND	ND	ND	ND
Pyrene	ND	ND	0.29	NA	NA	NA	16	ND	0.87	593	ND	ND	ND	ND	ND
Volatiles (mg/kg)															
Xylenes (Total)	1,660	710	296	NA	NA	NA	0.005	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	11,300	880	220	NA	NA	NA	0.005	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	180	85	28	NA	NA	NA	0.001	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	410	ND	30	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	950	100	81	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	2,700	380	230	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	ND	64	32	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	ND	140	18	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	120	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	88	ND	ND	NA	NA	NA	0.005	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	160	ND	22	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
Total-1,2-dichloroethene	160	85	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-dichloroethene	160	85	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-trichloroethane	140	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA

Table 6
GROUNDWATER SAMPLE ANALYTICAL RESULTS
SITE Q
CAHOKIA, ST. CLAIR COUNTY, ILLINOIS
DECEMBER 14, 1999

Parameter	Sample Designation					
	GW-01	GW-02	GW-03	GW-04	GW-05	GW-06
Volatile Organic Compounds (µg/L)						
Xylene	ND	28,000	32,000	ND	ND	ND
Chloroethane	ND	ND	1,600 J	ND	ND	ND
Methylene chloride	ND	5,900	1,600 J	8	8	9
1,1-Dichloroethane	ND	ND	1,400 J	ND	11	ND
cis-1,2-Dichloroethene	ND	ND	2,700	ND	2 J	ND
Toluene	ND	57,000	94,000	ND	ND	ND
Ethylbenzene	ND	4,700	4,400	ND	ND	ND
n-Propylbenzene	ND	ND	1,200 J	ND	ND	ND
1,3,5-Trimethylbenzene	ND	620 J	2,700	ND	ND	ND
1,2,4-Trimethylbenzene	ND	2,400 J	9,300	ND	ND	ND
p-Isopropyltoluene	ND	ND	580 J	ND	ND	ND
Naphthalene	ND	3,300 B	9,200 B	ND	ND	ND
Semivolatile Organic Compounds (µg/L)						
Phenol	ND	ND	192	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	4 J	ND	ND	ND
3,4-Dimethylphenol	ND	ND	1,345	ND	ND	ND
2,4-Dimethylphenol	ND	ND	1,355	ND	ND	ND
1,2,4-Trichlorobenzene	ND	170 J	12	ND	ND	ND
Naphthalene	ND	5,515	ND	ND	ND	ND
2-Methylnaphthalene	ND	860	24	ND	ND	ND
Diethylphthalate	ND	ND	8 J	ND	ND	ND
Phenanthrene	ND	20 J	1 J	ND	ND	ND
Di-n-butylphthalate	ND	58 J	8 J	2 J	ND	ND
Butylbenzylphthalate	ND	ND	22	ND	ND	ND
Bis (2-ethylhexyl) phthalate	2 J	4,237	72	3 J	7 J	7 J

Table 6 (Cont.)

GROUNDWATER SAMPLE ANALYTICAL RESULTS
SITE Q
CAHOKIA, ST. CLAIR COUNTY, ILLINOIS
DECEMBER 14, 1999

Parameter	Sample Designation					
	GW-01	GW-02	GW-03	GW-04	GW-05	GW-06
Target Analyte List Metals (mg/L)						
Antimony	ND	ND	ND	ND	ND	ND
Arsenic	0.049	0.122	0.430	0.041	0.069	0.115
Beryllium	0.007	ND	ND	ND	ND	0.012
Cadmium	0.015	0.057	0.046	ND	ND	ND
Chromium	0.154	0.202	0.074	0.038	0.036	0.299
Copper*	0.231	0.215	0.095	0.095	0.073	0.386
Lead**	0.284	0.432	0.136	0.211	0.094	0.385
Nickel	0.165	0.106	0.062	0.065	0.049	0.311
Selenium	0.030	0.061	0.020	0.041	0.039	0.029
Silver	ND	ND	ND	ND	ND	ND
Thallium	ND	0.010	ND	ND	ND	0.018
Zinc	1.75	1.17	1.25	0.338	0.195	1.62
Mercury	ND	ND	ND	ND	ND	ND
PCBs (µg/L)						
Aroclor 1248	ND	177	ND	8.42	ND	ND
Aroclor 1254	2.86	ND	133	ND	ND	ND
Aroclor 1260	1.12	181	237	ND	ND	ND
Total PCBs	3.98	358	370	8.42	ND	ND
Pesticides (mg/L)						
All parameters	ND	ND	ND	ND	ND	ND
Herbicides (mg/L)						
2,4,5-T	ND	3.8 D	ND	ND	ND	ND

Table 6 (Cont.)

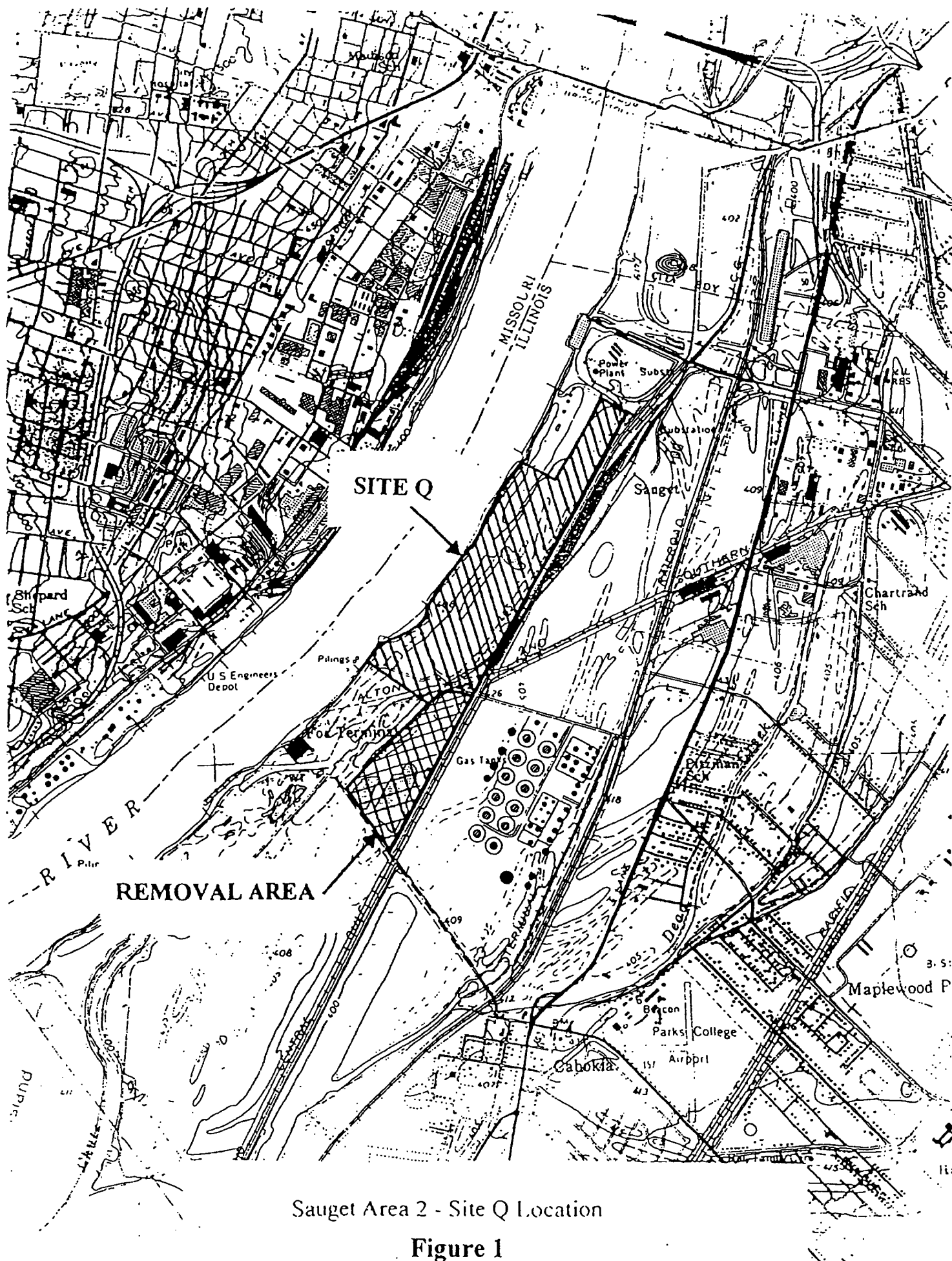
Key: ug/L = Micrograms per liter.
 mg/L = Milligrams per liter.
 ND = Not detected.
 J = Estimated concentration.
 B = Analyte detected in method blank, possibly below the reporting limit.
 PCBs = Polychlorinated biphenyls.
 2,4,5-T = 2,4,5-trichlorophenoxyacetic acid.
 D = Dilution.

Source: American Technical and Analytical Services Inc., Maryland Heights, Missouri. Analysis provided through Environmental Quality Management.

*U.S. EPA Region V Removal Action Report
Southern Portion of Site Q, Area 2
Cahokia, Illinois*

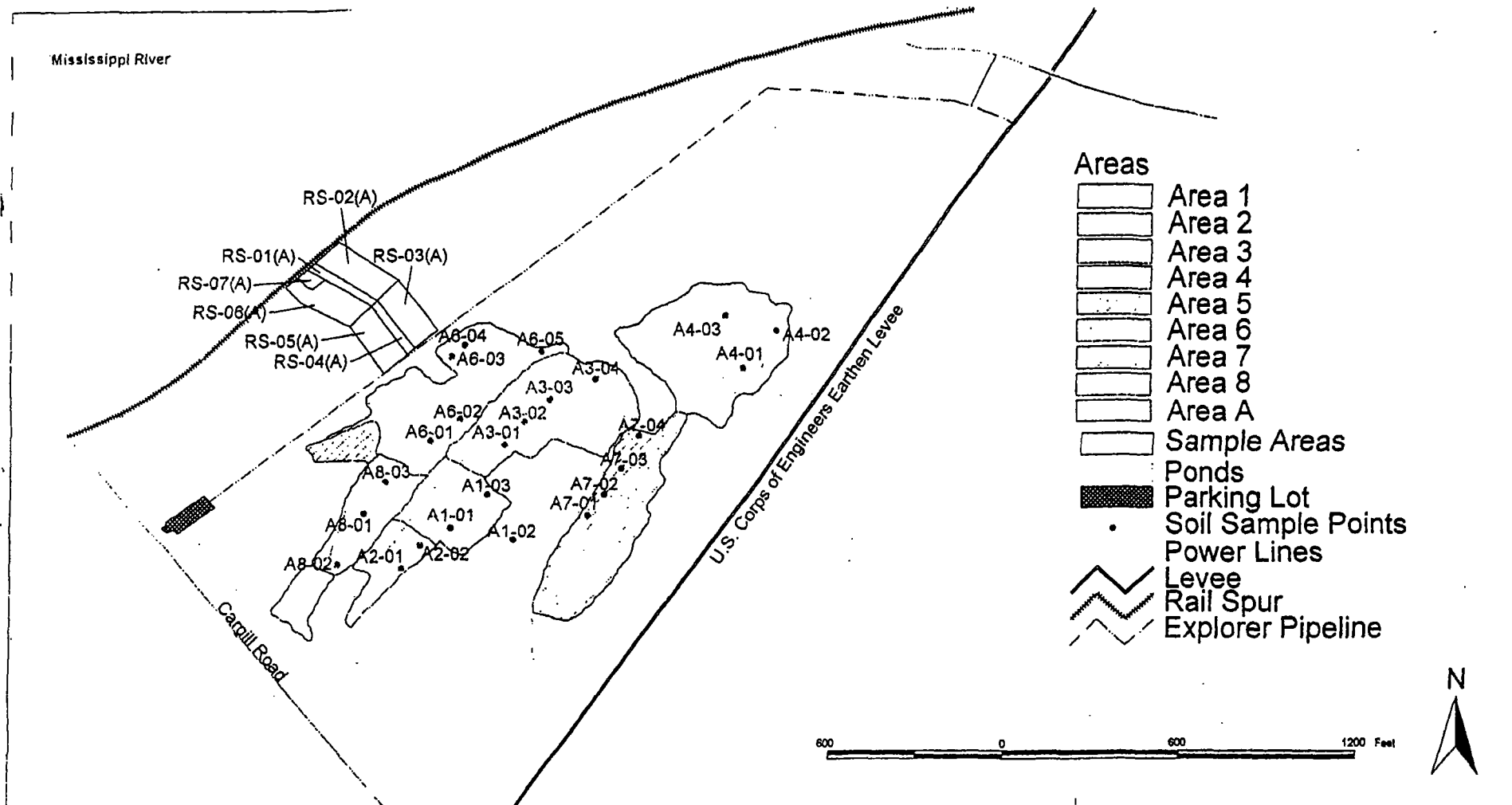
October 31, 2000

FIGURES



Sauget Area 2 - Site Q Location

Figure 1



Removal Areas And Sample Points

Figure 2 - Site Q - Cahokia, IL

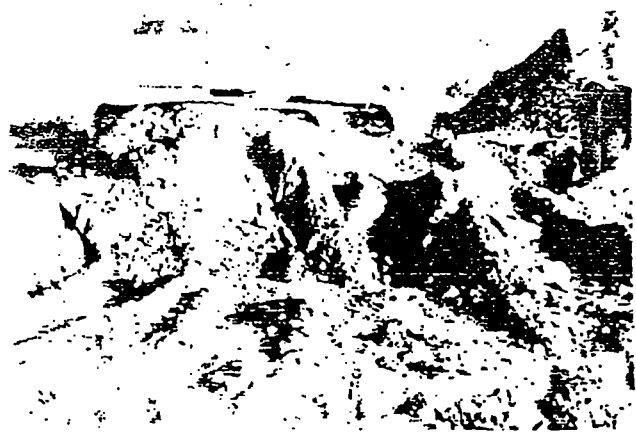
*U.S. EPA Region V Removal Action Report
Southern Portion of Site Q, Area 2
Cahokia, Illinois*

October 31, 2000

PHOTOGRAPHS



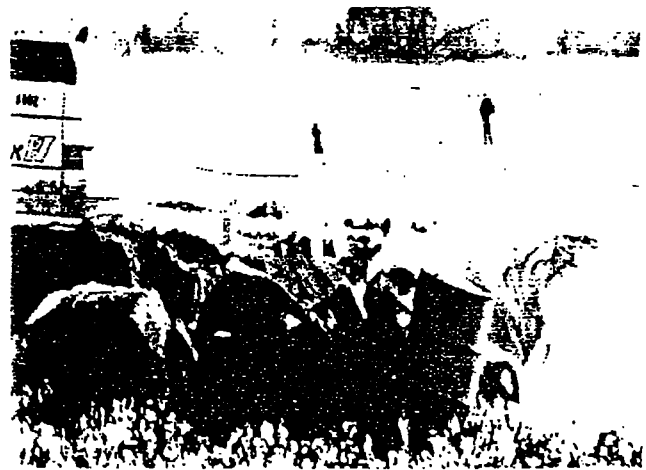
Initial Test Pit Excavation, Southwest Edge of Area A -
Looking South-Southwest



Initial Drums Revealed in Excavation, Southeast Edge of
Area 1 - Looking Northwest



Typical Burnt Debris Fill (metal, glass, wood, etc.), West
Portion of Area A - Looking Northeast



Initial Drums Removed, Southeast Edge Area 1 - Looking
South-Southeast



Natural Silt Overlaying Natural Sand, Northwest Edge of
Area A - Looking Southwest



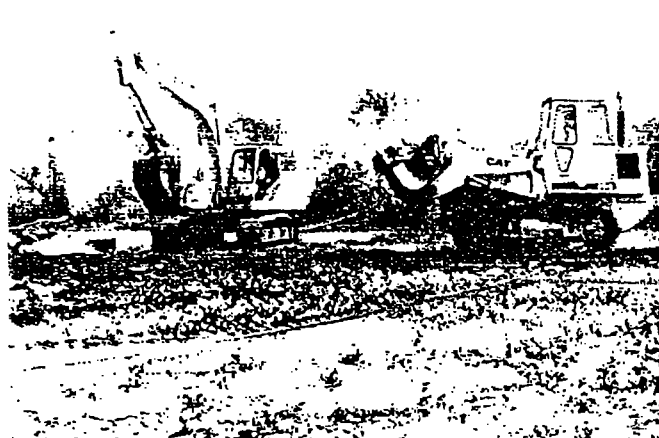
Discolored Soil Removal, Southwest Portion of Area 1 -
Looking Northwest



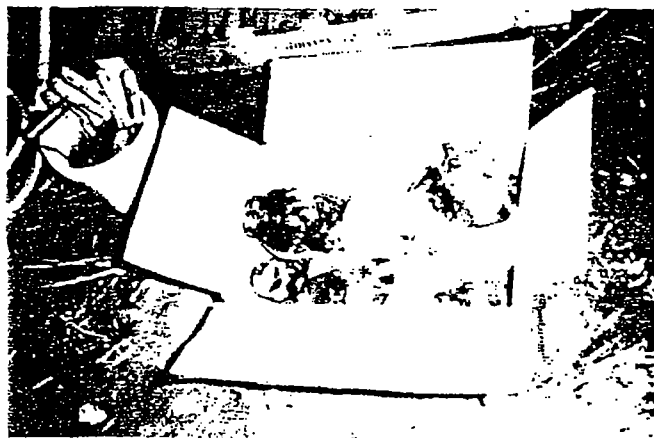
Organic Vapor Screening of Discolored Soil, Central Portion of Area 1 – Looking Northwest



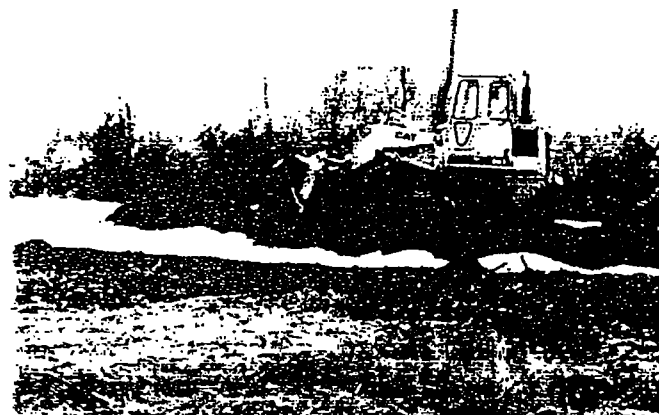
First Waste Soil Stockpile From Area 1, South Edge of Area 5 – Looking Southeast



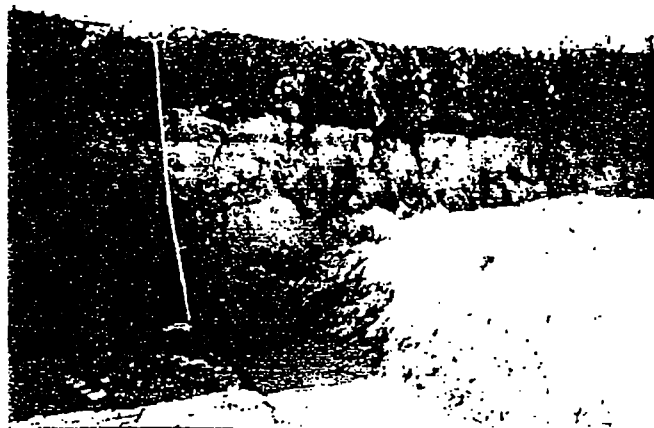
Front Loader Transport of Waste Soil From Area 1 – Looking Southwest



Glass Jars Containing Liquids and Crystalline Solids Removed from a Drum in Area 1 (Jar lids labeled "Mallinckrodt" and appeared to be laboratory-testing chemicals)



Placement of Stockpile on Heavy Plastic Sheetting (Area 1 Waste Soil). South Edge of Area 5 – Looking East



Blue-Gray Stained Sand Beneath Natural Soil (Note: Wet surface, groundwater interface, at base of excavation), Western Portion of Area 1 – Looking West



Stormwater Drainage Ditch Through East Pond (Note: Red outlines of Areas 1 and 2 on left side) - Looking Northeast



Groundwater in Deeper Excavation at Northeast Edge of Area 2 (Note: Blue-gray discolored sand on slope of excavation) - Looking East-Northeast



Excavation/Loading of Black Discolored Soil on the Northwest Edge of Area 1 - Looking West-Northwest



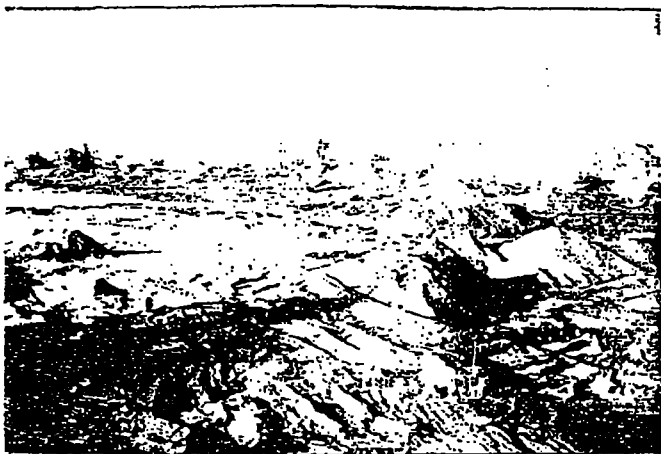
Shallow excavation in Southwest Portion of Area 3 Proceeding North-Northeast - Looking Northeast



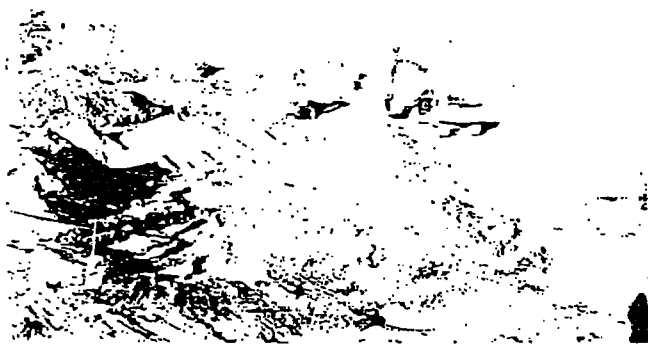
55-Gallon Drums Removed From Area 1 (Note: Silver paint coating on many drums), Staged in Northwest Portion of Area 6 - Looking Northwest



Majority of Drums Removed From Area 1 and First Waste Soil Stockpile Generated From Area 3, Northwest Portion of Area 6 - Looking South



Broad Shallow Exploratory Excavation Across Southern (Lower) Portion of Area 3 – Looking West



Broad Shallow Exploratory Excavation Across Central (Lower) Portion of Area 3 – Looking North



Suspect Smelter Furnace Bottoms and/or Waste Distillation Solids From the Extraction of Metals from Sulfide Ore (Sulfur Order is Prevalent), Southern (Lower) Portion of Area 3



Initial Drums Recovered From Area 3, Staged on the Southeast Side of Area 6 - Looking South



Drums Containing Elastic Foam-Rubber Type Material Obtained From Area 3 (Both labeled "Mallinckrodt")

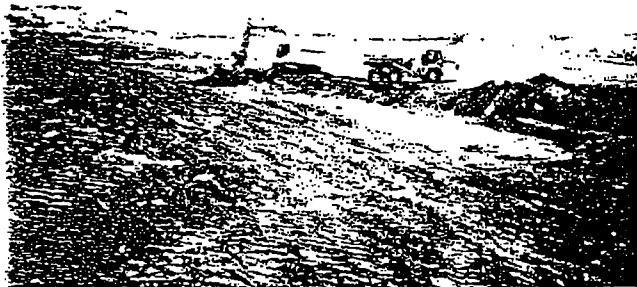


55-Gallon Drum Labeled "Vestal Products" Recovered From Area 3

Site Q Photos Week Ending 12/3/99



Apparently Empty 55-Gallon Drum Labeled "Monsanto"
Recovered From Area 3



Backfilling and Grading Areas 1 and 2 - Looking Northeast

Site Q Photos Week Ending 12/10/99



Crushed Drums (Typical) Staged For Disposal, Located in
Area 6



Dark Blue Moist Grainy Crystalline Solid (Strong, Sweet
Volatile Organic Odor) in 55-Gallon Drum Recovered From
Area 3



Three of Four Pilot Treatment Soil Piles to Render Lead-
Containing Waste Soil Non-Hazardous, Southwest Portion
of Area 6 - Looking Northeast

Site Q Photos Weeks Ending 12/03/99 and 12/10/99



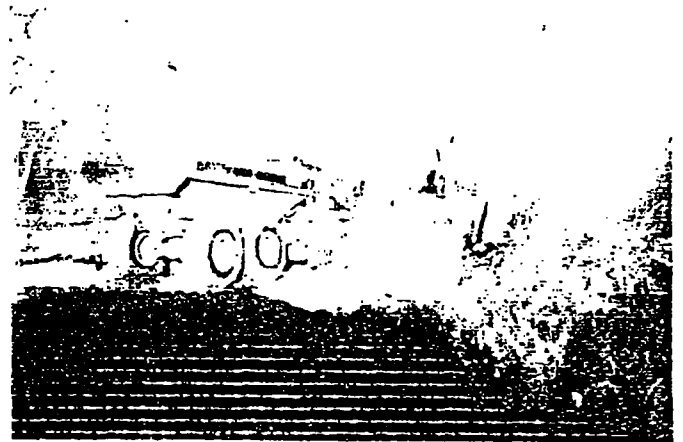
Storage of EnviroBlend™ (dry granules of magnesium oxide and calcium phosphates) Used to Treat Lead-Containing Waste Soil. Note: Two Trackhoes Mixing EnviroBlend™ In The Background. Southwest Portion of Area 6 – Looking Northeast



Additional Waste Soil Removal From Area 1 (Note: Gray Discoloration) – Looking North-Northwest



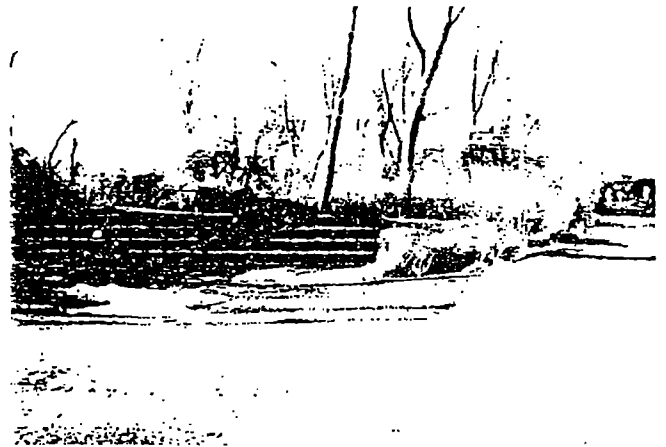
Removal of Dark Discolored Sand Horizon Beneath
Municipal Wastes, North (Upper) Portion of Area 3 – Looking
Northwest



Transfer of Waste Soil to Railroad Spur for Off-Site Rail
Transport – Looking Northwest



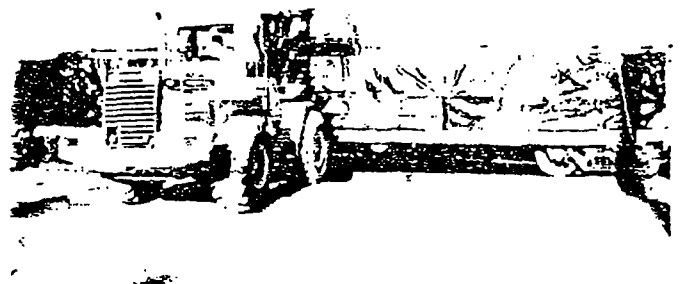
Final Grading to Cover Areas 1 and 3 – Looking West



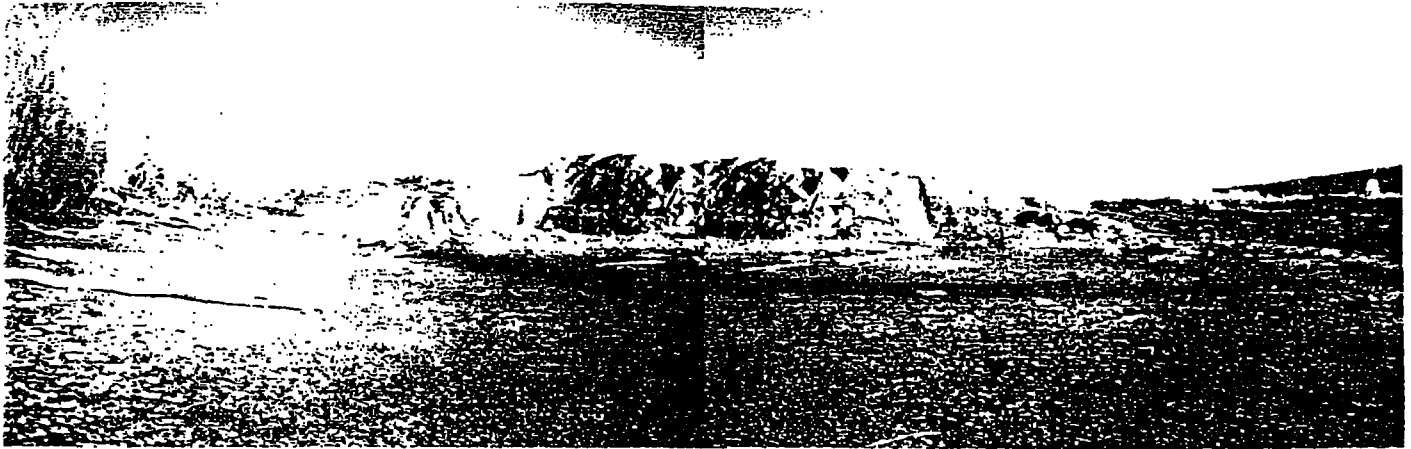
Waste Soil Staging Area Prior to Loading in Rail Cars --
Looking Southwest



Construction of Access Road to Railroad Spur for Off-Site
Waste Transport, Northwest of Area 6 – Looking Northwest



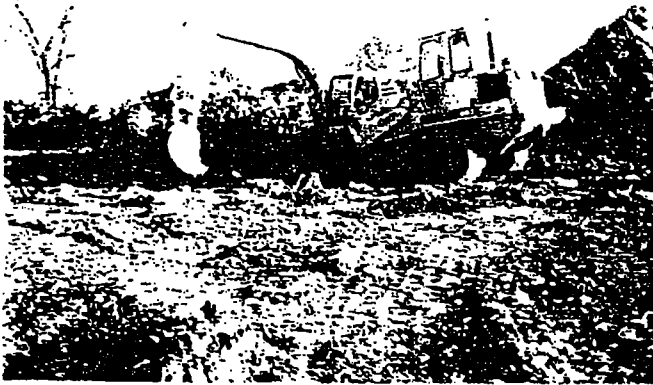
Waste Soil Loading into Rail Cars – Looking Northwest



Initial Broad Exploratory Excavation, North of Small Dry Pond in Area 4 - Looking North



Exploratory Excavation, Northeast Portion of Area 4 - Looking Northeast



Initial Exploratory Excavation in Area 6



Initial Exploratory Excavation in Area 6



Initial Exploratory Excavation in Area 6



Exploratory Excavations, Northwest Portion of Area 4 – Looking Northeast



Highly Deteriorated Drums Recovered from Area 4, Staged on Northwest Edge of Area 6 – Looking Northwest



Moist White and Black Waste in Exploratory Excavation, West Edge of Area 4 – Looking Down



Apparently Empty 55-Gallon Drum Labeled "Monsanto" Recovered from Area 4

✓



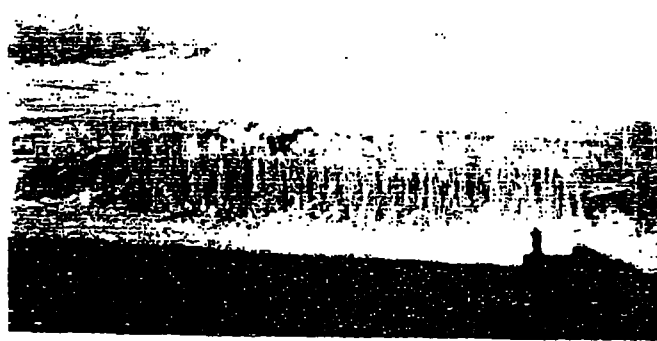
Unearthed Black Waste, West Edge of Area 4 – Looking East



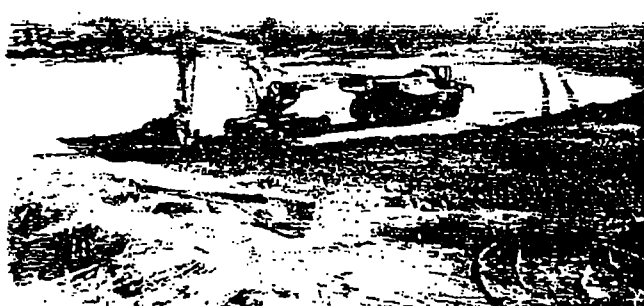
Broad View of Flood Levee, Area 4 and North Portion of Area 7 – Looking From Northeast to West



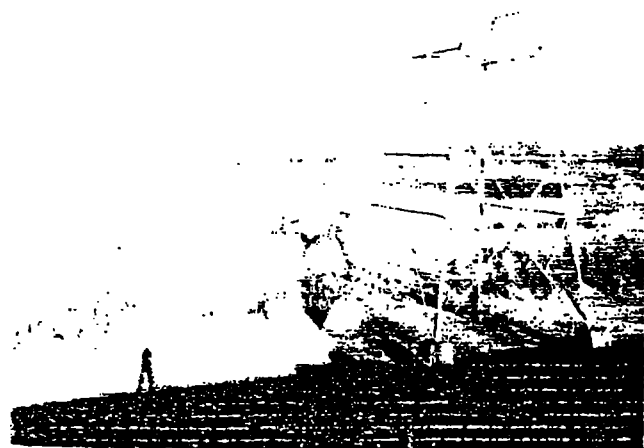
Blue-Gray Discolored Sand Removed from the Central Portion of Area 7 (Sweet Volatile Organic Odor), Staged in Area 6 - Looking North



Exploration in Southern Portion of Area 7 - Looking West



Scraping Silt from the Southwest Portion of the West Pond to be used as Cover Soil Over Excavated and Backfill Areas - Looking East



Exploration in Central Portion of Area 7 - Looking Northwest

Site Q Photos Week Ending 2/4/00



Spreading On-Site Borrow Soil Over the Northeast Portion of Area 4 and Grading Cover – Looking North-Northwest

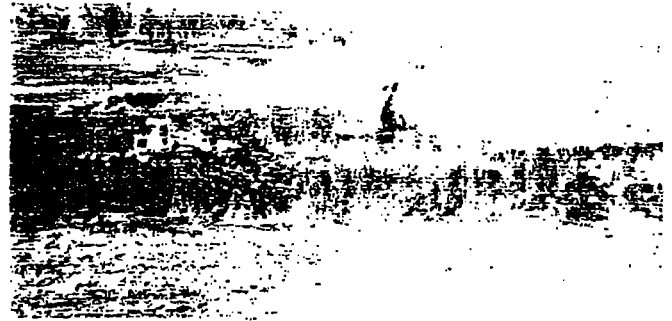


Exploration and Removal of Blue-Gray Discolored Sand in Central Portion of Area 7 – Looking Northwest



Group of Highly Deteriorated Drums Removed from Area 7, Staged in Area 6 – Looking North

Site Q Photos Week Ending 2/11/00



Clearing, Broad and Shallow Exploration and Deeper Exploration in Central Portion of Area 7 – Looking West-Northwest



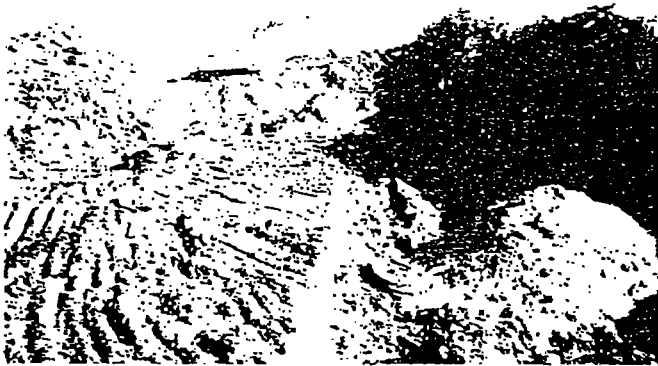
Highly Deteriorated Drums Recovered from Area 6, Staged in Area 6 – Looking North



Rusty Charred Municipal Waste Scraped from (Upper) Northeast Edge of Area 3 – Looking East-Northeast



Blue-Gray Discolored Sand Beneath Municipal Waste, Northern Portion of Area 6 – Looking North



Blue-Gray Discolored Sand from Deeper (Up to Ten Feet Below Grade) Excavation in Northeast Edge of Area 8



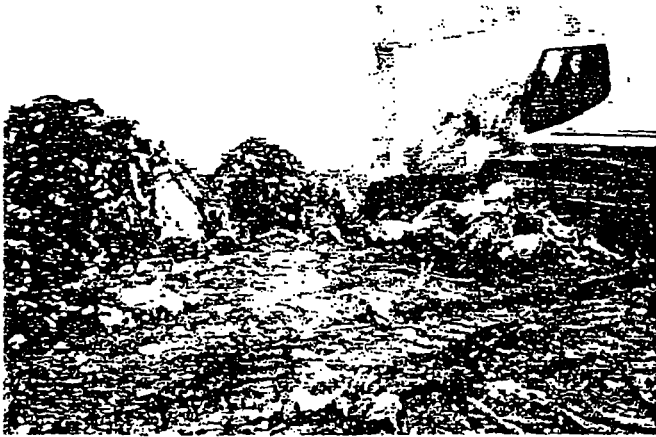
Close-Up of Blue-Gray Discolored Sand from Deeper (up to ten feet below grade) Excavation in Northeast Edge of Area 8



Blue-Gray Discolored Sand from Five to Eight Feet Below Grade in Southeast Tip of Area A



Plastic Caps for Hand-Held Aerosol Spray Cans Unearthed in the Southwest Corner of the East Pond, just East of the Southern Tip of Area 2 (Few Highly Corroded Spray Cans Were Scattered Among the Caps)



Highly Deteriorated Drums Near Backhoe Track Recovered Among Municipal Waste in Area 6 – Looking East



Orange Discolored Sand from Deeper (Up to Ten Feet Below Grade) Excavation in Northern Portion of Area 8



Light Gray Crystalline Powder Discovered Below Municipal Waste, Southern End of Area 6



Light Gray Crystalline Powder Discovered Below Municipal Waste, Southern End of Area 6 – Looking North

Site Q Photo Week Ending 3/24/00



Loading Waste Soil (Designated Non-Hazardous) from Area 4 for Transport to Waste Management's Milam Landfill in Madison, Illinois, Staged in Area 6 - Looking Northwest

Site Q Photo Week Ending 3/31/00



Areas 6 and 8 Final Backfilling and Grading - Looking Northeast



Former Location of Rail Loading Access Road, Northwest of Area 6 – Looking Northwest



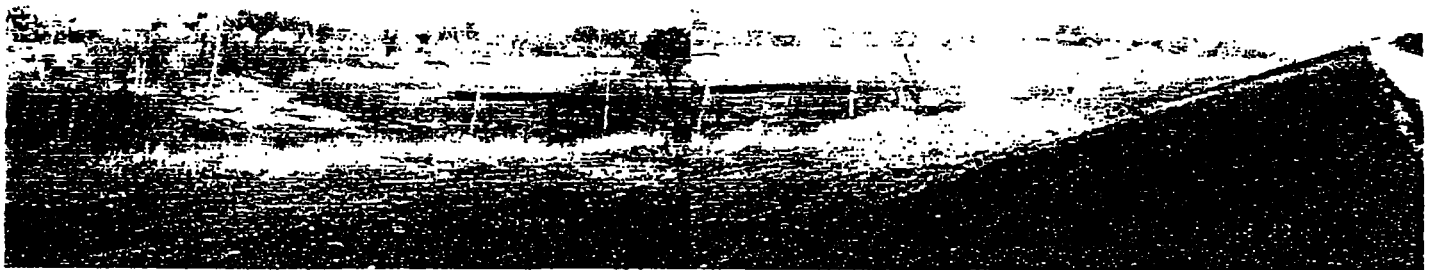
Northeast Portion of Area 4, Backfilled and Covered – Looking South Towards Small Dry Pond



Portions of Areas 1, 6, and 8. Backfilled and Covered – Looking South Through West



Northwest Portion of Area 3, Backfilled and Covered – Looking North



General View of Southern Portion of Site Q – Looking Northwest (Cargill Road) Through Northeast (U.S. Corps of Engineer's Levee)